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NATIONAL TUBERCULOSIS ASSOCIATION

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FIFTIETH ANNIVERSARY ISSUE

NATIONAL TUBERCULOSIS ASSOCIATION
1904 1954
IN HONOR OF THE PEOPLE WHO FOR 50 YEARS HAVE CARRIED FORWARD WITH FAITH WISDOM AND COURAGE THE CRUSADE AGAINST TUBERCULOSIS

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bulletin

NATIONAL TUBERCULOSIS ASSOCIATION

VOL. 40 NO. 5

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ELLEN LOVELL., Editor; ELIZABETH HODGSON, Associate Editor

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EDITORIAL

Voluntary Agencies in a Democracy

Voluntary agencies are among the most effective and unique products of the democratic way of life. They are a demonstration of American generosity, genius for organization, and propensity for doing something about problems in preference to merely talking about them, or waiting for something to happen, or expecting somebody *else* to provide the answers.

The National Tuberculosis Association has every reason to be proud of being one of the first and finest examples of such groups. In many respects, the Association is also the most successful. It was among the first to arouse national interest and to develop local units extending clear across the country. From the earliest beginnings of the National Association, its developmental pattern was clear—to help establish and strengthen autonomous local associations. The NTA can be proud, too, of its vision in adopting a policy of the broadest possible cooperation with all public health and social agencies working for better health and community welfare. Because of these policies, the sum of the achievements of tuberculosis associations may be measured not only in terms of tuberculosis control, but also in terms of the growth of many other public health services, including full-time health departments, clinic facilities, school health services, medical education and research, and industrial hygiene programs.

The annual Christmas Seal Sale is yet another accomplishment of which the NTA can well be proud. The value of this unique device as an educational force as well as a successful fund-raising activity is too well known to require elaboration here.

With a record of such impressive achievements behind it, the half-century mark which the NTA reaches this year should be an occasion for deep satisfaction to everyone who has had a share in its work. But it might also be an occasion for thoughtful appraisal of the *present* in order to point the way to a still more effective *future*. All of us suffer from the defects of our qualities, organizations no less than individuals, and there are disadvantages, probably unavoidable, in the high degree of specialization of interest inherent in many voluntary agencies. The very qualities of individualism, aggressiveness, and intense loyalty which have contributed so much to the success of voluntary groups may militate against one of their most important needs—closer relationships with one another and with all agencies working toward better health and welfare for everyone.

Resistance to fitting special interests into the needs of the whole group, as reflected by too firm an adherence to patterns of the past, is probably a sign that our social structure has not yet reached maturity. One of the signs of maturity in any organization is the ability to look constantly for better ways of meeting changing conditions and interdependent needs. We cannot alter nature's law that nothing may stand still. It must go forward, or slip backward.

Voluntary agencies have done their job of public health education so well in their individual fields that people are beginning to ask for more and better services. The time is coming when they will demand and get all-round health protection, without wasteful duplication, through coordinated effort. This trend is actually a tribute to the effectiveness of past work by voluntary agencies—a proof of their outstanding success.

The National Health Council was organized in the hope that it might focus and fuse special skills into coordinated efforts at the local level. For these reasons, it encourages the formation of local health councils. Many are already functioning admirably in helping bring maturity to the local social structure. In time, other councils, still impeded by local jealousies or perhaps a short-sighted loyalty and devotion to a single cause, will also succeed. Patience and persistence on the part of those working toward greater unity will bring recognition that past patterns are no longer adequate. In time, those agencies which lag behind will learn that it is possible to merge interests without the loss of the deep satisfaction, enthusiasm, effectiveness, and support from the public which they now enjoy. They will learn that the broadening of horizons brings only gain—to the individual as well as the organization.—*William P. Shepard, M.D., Second Vice President, Metropolitan Life Insurance Company; Past President and Member of the Board of Directors, NTA.*

Challenge of the Future

Rapidly Changing Character of TB Control Procedures Demands Prompt Knowledge of New Developments, Keen Discrimination, Sound Judgment, and Courageous Decisions

by James E. Perkins, M.D.

Dr. Perkins has served as Managing Director of the National Tuberculosis Association since January 1948. Prior to that time he was Deputy Commissioner of Health, New York State Health Department.

The only constant quality of communicable disease control procedures is continuous change. Priorities and emphases necessarily vary among different communities and shift within a single community as the problem changes and as research provides new control tools. Emphasis in the control of typhoid shifted from the sanitation of water and milk supplies and mass vaccination programs to detection and control of the residual carriers. Priority in poliomyelitis control has shifted from impractical quarantine attempts to trials with a short-term preventive, gamma globulin, and apparently soon may be changed to mass vaccination.

Tuberculosis control programs have been more gradual in their transmutation but the rate of change is accelerating and any attempt to describe the status of tuberculosis control in 1954, the 50th anniversary of the National Tuberculosis Association, inevitably involves projection into the future.

Exciting and Demanding Times

These are exciting times in which to be involved in tuberculosis control work, and even more demanding than in the past. They require prompt knowledge of all new developments, from discoveries in the research laboratories to changing attitudes of the public, the practicing physician, and the legislator. They demand keen discrimination between fact and supposition. They demand judgment and courage in altering administrative practices promptly to take advantage of advances, without abandoning prematurely or unwisely procedures which have withstood the test of time.

The recent rapid changes in the tuberculosis control program have been due largely to effective new antimicrobial agents. With several effective drugs now available and with their effectiveness still further enhanced by a number of combinations, drugs are exerting an increasing impact on the tuberculosis picture. Still other drugs are being developed and new combinations are being tested in animals and in controlled clinical trials. It seems likely that in the future we may have combinations of drugs which will actually eliminate tubercle bacilli from the body. If so, and if they are non-toxic, cheap, and easily administered, whole new vistas of their possible prophylactic application may be revealed.

Effects on Epidemiologic Data

Certainly, even today, the availability of a choice of several drugs and of different combinations of drugs has reduced apprehension concerning the development of strains of tubercle bacilli resistant to these antimicrobial agents. Certainly, too, these drugs, plus improved anesthesia and surgical techniques, now enable the surgeon to perform feats utterly impossible just a few years ago.

And these gains are reflected in our epidemiologic statistics. They have so reduced the case fatality rate that the mortality rate is plummeting. The sickness rate is declining much more slowly but it is indeed declining, and no doubt declining faster all the time. Even so, we estimate that at least 100,000 new active cases are developing each year in the United States.

The average duration of illness from tuberculosis has been reduced. Although in many instances patients who would have died after a relatively short illness now survive for prolonged periods because of modern therapy, their number has been more than counterbalanced by the reduction in the average duration of illness in less advanced cases.

The average length of hospital stay has also been shortened, partly because of the reduction in the average duration of illness and also due in some instances to administrative decisions to discharge patients primarily on the basis of conversion to a negative sputum rather than on the basis of the clinical and radiological evidence of stability previously required; in these latter instances, therapy and supervision of the patient are continued at home following discharge from the hospital. Thus, hospital waiting lists have been cut or eliminated in many communities.

Relapse Rate Reduced

It appears that in general the relapse rate has also been reduced. The progress of patients who have been discharged from hospitals at an earlier stage than formerly is being followed carefully to determine whether or not there may be more relapses than usual among these patients. Limited observation so far does not seem to indicate that such is the case.

As to the infection rate, it is difficult to obtain reliable and comparable figures. It would appear that the infection rate, too, is declining and probably at an increasingly rapid pace, but there are still millions of people in the United States who react to tuberculin and are thus harboring in their bodies virulent tubercle bacilli.

One of the most surprising changes in the tuberculosis control program is the apparent reduction in case-finding activities. Accurate figures on the

number of people receiving chest X-rays per year are difficult to obtain, but all estimates indicate a slowing down in the last couple of years. This is astonishing and disquieting. It is contrary to what should be the effect of improved therapy. Certainly, an improved method of treatment makes the finding of unknown cases all the more important.

Curtailed Case Finding

The Federal Bureau of the Budget saw fit a year ago to recommend complete elimination of the program of assistance given by the U. S. Public Health Service to large cities in mass X-ray surveys of the adult population, as well as substantial curtailment in grants to states, a large part of which are used for case finding. These reductions were put into effect by Congress over the protests of tuberculosis associations. This year the Bureau of the Budget is recommending a further 53 per cent reduction in grants to states for tuberculosis work, even though 32 state legislatures will not be in session in 1954 and so cannot possibly make up the difference even if so inclined.

This decrease in case-finding activities will have another unfortunate result. It is going to give a false impression of how fast tuberculosis cases are decreasing. Tuberculosis hospital beds and clinics may be closed prematurely and efforts abandoned to obtain such additional facilities where they are needed. The failure to uncover cases of active infectious disease will result in unnecessary tragedy and suffering. It will slow the rate of decline in the mortality, morbidity, and infection rates.

Reduced facilities for the discovery of cases will make it all the more important to concentrate first on population groups where the most tuberculosis is likely to be found—contacts, the elderly, the lower economic groups, the ill, the institutionalized. Even when all these groups are screened adequately there will be need for some time to come in most communities for mass surveys of the adult population. Ultimately, such surveys will become too expensive to be justified but this point will be reached at varying times in different communities and depend upon the number of cases found and the extent of local financial resources.

It is only after careful consideration of what it will cost *not* to discover a case, and of what financial resources are available locally and the nature of other demands upon those resources, that one is justified in saying that $500 or $2,000 or even $5,000 is too much to pay for finding each previously unknown case. It would seem that ultimately chest X-rays will become a part of an annual or semi-annual check-up aimed as much or more at detecting conditions other than tuberculosis. These examinations would be made by one's own physician or at special multiple screening clinics at permanent and convenient locations.

The tuberculin test is becoming progressively more important, not only to determine the prevalence of infection in the various communities of the country and to serve as a guide to program administration, but as a diagnostic tool. Perhaps a reaction to tuberculin in itself will justify treatment when better antimicrobial agents are available.

Case Supervision

The present trend toward providing treatment and supervision in the home for a relatively longer period of the tuberculosis patient's illness is creating some important problems. It makes close coordination among all professional personnel involved — physicians, nurses, social workers, rehabilitation workers, and others — even more important than before. Staffs of public health nursing agencies, already inadequate, are receiving an increasing number of calls for supervision of tuberculosis patients at home. There is an increasing load on tuberculosis clinics and out-patient departments. Administration of rehabilitation programs will be more difficult. Family emotional and social problems will be accentuated by the presence of an invalid or semi-invalid at home who must be cared for and whose presence interferes with the social activities of other members of the family.

Eventually all of these problems will decline as the decrease in the morbidity rate continues but for some time they will increase.

Treatment Facilities

No one can say with assurance at this time how many additional tuberculosis beds will be needed. Certainly, in some sections of the country no additional beds appear to be required. On the other hand, there are still a number of communities where there will be a serious lag in the decline of tuberculosis unless additional hospital facilities are provided.

With the marked reduction in the case fatality rate, the old formula of 2.5 or 3 beds per annual death becomes a thing of the past and emphasis shifts to recognition of the number of active and apparently active cases in setting up new standards. The Association of State and Territorial Health Officers, acting on a suggestion from the staffs of the NTA and the PHS, has recommended a new formula based on the average annual number of active and apparently active cases for the purpose of establishing a ceiling for grants from the Federal Government to states for aid in constructing tuberculosis hospitals under the Hill-Burton Act.

The suggested formula is not intended as an accurate determination of the actual needs in a given state. Under the formula, states such as Connecticut and Minnesota would not be eligible for any additional aid from Hill-Burton funds, whereas other states, such as Mississippi and Alabama, would still be eligible for additional funds. This recommendation of the State and Territorial Health Officers has not yet been put into effect and the question is being explored as to whether a change in law is necessary or whether the formula can be altered through administrative regulation.

It seems clear that hereafter new facilities should be built only in con-

nection with other hospitals and with an eye to convertibility to other uses. Remotely located hospitals will gradually be closed or, where practical, used for other purposes. In most states tuberculosis patients will be cared for in fewer and fewer institutions and these will be connected with urban medical centers. In many areas an increased load on tuberculosis clinics and out-patient departments will result in a shift from one department of government to another, which in turn may result in some temporary difficulties, pending adjustment of appropriations and personnel.

It seems apparent that the general practitioner is going to be involved in the actual treatment of the tuberculosis patient to a much greater extent than he has in the recent past and fewer patients will be treated by specialists in chest diseases. Another factor acting in the same direction is the relatively shorter time that the average patient will spend in a hospital and the fact that such hospitalization is less likely to be in a remote institution. The family physician, therefore, will be less likely to lose supervision of his patient. This trend requires a change in the nature and emphasis of postgraduate medical conferences and courses of instruction, which must be directed more toward the general practitioner.

Specific Immunization Program

The expansion of areas of low morbidity and increasing importance of the tuberculin test as a diagnostic and epidemiologic tool makes the extension of BCG immunization to the population as a whole unlikely. The recommendation to use BCG in the presence of unusual exposure continues to be appropriate.

There is still need, however, for a vaccine which is completely non-toxic, produces a high degree of immunity, and can be given to everyone. Unless there is a marked upheaval in our social and economic life, we can control tuberculosis ultimately without such a vaccine but more rapid progress could be made if it were available. It would appear that such a vaccine would offer the only possibility of rapid control in those parts of the world where it will be many, many years before the standards of living can be raised to the level of those in America.

In the absence of such a vaccine, all those interested in tuberculosis control must continue to work toward adequate housing and good nutrition for all. No doubt these non-specific factors which increase resistance to tuberculosis have been largely responsible for past progress in tuberculosis control and they are our principal barriers to a resurgence of the disease in areas where it has been essentially eradicated.

Intelligence and Research

Advances made thus far do not justify any reduction in the search for still better drugs, better combinations of drugs, a better vaccine, and in the many facets of social research.

It is also imperative that a nationwide system be established for determining precisely and promptly the tuberculosis situation throughout the country in terms of deaths, cases, infections, tuberculosis hospital occupancy, average duration of stay in hospitals, relapse rates, and changes in tuberculosis control appropriations, personnel, and programs by the local, state, and federal governments.

Laws and Regulations

As the prevalence of tuberculosis declines, state and local laws are likely to become more strict regarding compulsory isolation of infectious persons who conduct themselves in a manner dangerous to the public health. At the same time, laws are likely to become less strict regarding residence requirements and means tests. The increasing availability of hospital beds will also tend to bring about a more lenient interpretation of residence requirements and means tests.

Education

Along with the decline in the prevalence of tuberculosis, there is likely to be a decline in the public's fear of the disease and it may be more difficult to motivate the average citizen to cooperate in chest X-ray surveys and other control activities. In fact, there is already evidence that the public is not responding as well to mass surveys as it did a few years ago. This tendency will require greater skill in the preparation of our health education materials and in our organization of communities for health education purposes.

The recent advances also compel judgment and skill in keeping the public informed of the gratifying progress that is being made and at the same time insuring their continuing support of official and voluntary tuberculosis control programs until the job is completed.

Organization and Administration

As more and more local communities have little tuberculosis, a greater centralization of the program in the state agency, with greater use of multi-county districts, is likely to occur. The state tuberculosis association will be used to a greater extent to equalize resources throughout the state, both through the concentration of services of state consultants in problem counties and districts and also, when appropriate and possible, through financial grants to those particular areas.

So far as the NTA is concerned, it would seem that there should probably be somewhat greater centralization of the program nationally as well as at the state level, and for comparable reasons. It would also seem proper and feasible for the NTA to give greater emphasis to international control efforts and to cooperation with other national agencies whose work affects the tuberculosis problem.

Conclusion

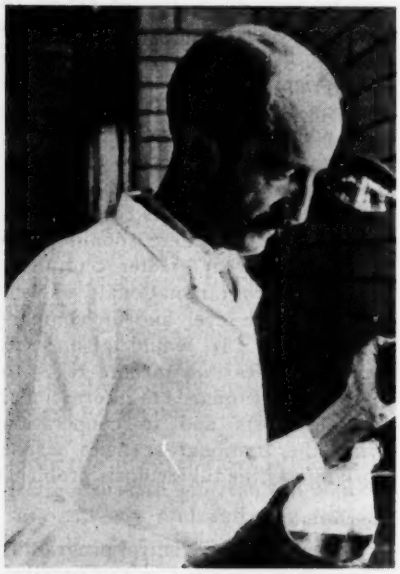
The tuberculosis control program is changing faster than in the past because of many factors, particularly because of recent improvements in treatment. The shifting picture makes discussion of the present program possible only in terms of the theme of this 50th anniversary of the NTA, "The Challenge of the Future," and I have attempted to do so at the risk of making some flat assertions and predictions which may plague me in years to come. At any rate, I am sure, we all agree that it is a thrilling time to be associated with efforts to eradicate tuberculosis.

"For Meritorious Contributions . . . ."

THE voluntary tuberculosis control movement recognizes outstanding services to tuberculosis control through the annual award of the Trudeau and Will Ross Medals of the National Tuberculosis Association.

Named in honor of Dr. Edward Livingston Trudeau, "father of the sanatorium movement in the United States" and first president of the NTA, the Trudeau Medal was established in 1926 to be given "for the most meritorious contribution on the cause, prevention or treatment of tuberculosis."

The medal has usually been given to someone in the world of medicine or



Edward L. Trudeau, M.D.

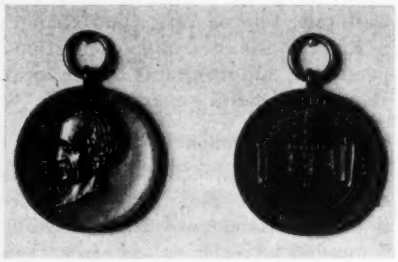
science. The one exception was in 1942, when it was given to Miss Emily P. Bissell of Wilmington, Del., founder of the Christmas Seal Sale in the United States in 1907," for outstanding social and administrative work."

To fill the need for a special tribute to those who make valuable contributions outside the scientific field, the NTA in 1952 established the Will Ross Medal in memory of the late Will Ross of Milwaukee, Wis., to be given annually "for outstanding and distinguished contribution to the tuberculosis control movement in some field other than that of the medical sciences."

Mr. Ross had served as president of the NTA in 1945 and as an active worker in the voluntary tuberculosis control movement for many years, both in his state and nationally, before his death in 1951.

Homer Folks First Recipient

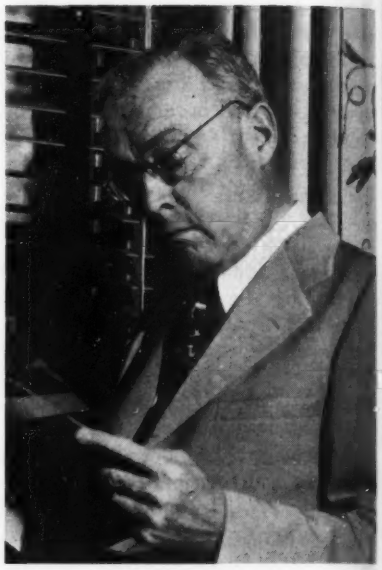
Homer Folks, a leader in the health and welfare fields for more than half a century and president of the NTA in 1912, was designated the first recipient of the Will Ross Medal and received the award at the NTA Annual Meeting in Boston in May 1952. Dr. James R. Reuling of Bayside, N.Y., also a past president of the NTA, received the



The Trudeau Medal

award in 1953 in recognition "of his devoted service to the cause of better health and tuberculosis control over a period of many years despite numerous other demands on his wisdom and skill . . ."

The roster of the Trudeau Medal recipients lists many distinguished names, beginning with that of Dr. Theobald Smith in 1926. The others are: Dr. Edward R. Baldwin, Sir Robert Philip, Dr. Eugene L. Opie, Dr. Henry Sewell, Dr. Allen K. Krause, Dr. Esmond R. Long, and Dr. Lawrason Brown.



Will Ross

Also, Dr. William Snow Miller, Dr. Leroy U. Gardner, Dr. Edward W. Archibald, Dr. Charles J. Hatfield, Florence B. Seibert, Ph.D., Dr. Gerald B. Webb, Dr. William Charles White, Dr. John Alexander, Miss Emily P. Bissell, Dr. David R. Lyman, and Dr. James Alexander Miller.

Also, Dr. Florence R. Sabin, Dr. Max Pinner, Dr. Kendall Emerson, Rudolph J. Anderson, Ph.D., Dr. Howard W. Bosworth, Dr. John B. Barnwell, Rene J. Dubos, Ph.D., Dr. J. Burns Amberson, and Dr. James J. Waring, who won the award in 1953.

The Will Ross Medal

Fifty Years of NTA

Future Holds Great Challenge as National Tuberculosis Association Marks Half a Century in Tuberculosis Control Leadership in the United States

by Robert G. Paterson, PhD

Dr. Paterson is the former Archivist of the National Tuberculosis Association and served in that capacity for several years before his retirement in 1952. He had retired six years earlier as Executive Secretary of the Ohio Tuberculosis Association after 35 years in that post but remained as Executive Secretary Emeritus and Director of Research.

The key piece to the picture puzzle of tuberculosis is still missing. The search for a specific therapy continues unabated and intensified. In the meantime, the National Tuberculosis Association has been in the vanguard for 50 years in providing the successful substitute measures for such a specific therapy.

In glancing back over these 50 years and the years before the NTA came into being, one is struck by the almost rhythmic character of the program as it developed. Beginning with Laennec's invention of the stethoscope in 1818 and ending with Koch's announcement of the discovery of the tubercle bacillus on March 24, 1882, a period of 64 years elapsed. From Koch's discovery to the fiftieth anniversary of the NTA covers a period of 72 years.

Changing Tempo

The tempo in the period from Laennec to Koch was slow and laborious—that from Koch to the formation of the NTA was somewhat more rapid, but after the NTA began its work the acceleration has been astonishing.

After Koch announced the discovery of the tubercle bacillus it was seven years before Biggs appeared upon the scene with his ideas of popular education and the use of legislation in the fight against tuberculosis. It was ten years to the permanent establishment of the first novel combination of medical and lay workers in a voluntary organization—The Pennsylvania Society for the Prevention of Tuberculosis, founded by Flick—and 20 years to the initiation by Knopf, Biggs, and Devine of the Committee on Tuberculosis of the Charity Organization Society of New York City. These were the patterns for the National Association that came 22 years after Koch's discovery.

Many probing questions can be raised as to why it took almost a quarter of a century to arrive at this point. However, once the combination of medical and non-medical workers was accepted, the integration of the *study* and *prevention* of tuberculosis was under way in earnest. This integration has proceeded apace over the years through the American Trudeau Society and the National Conference of Tuberculosis Workers.

The Turning Point

The year 1904 marks a turning point in the battle against tuberculosis in the United States. Ideas were abroad that were to be brought together to form the core of the program of the NTA. This core was a rallying cry or slogan, —"Tuberculosis is communicable, preventable and curable." In January of that year the first tuberculosis exhibit in the world was organized in Baltimore. On June 6 the National Association for the Study and Prevention of Tuberculosis was founded. In September the first Tuberculosis Directory in the United States and Canada was published and in December the idea of the Christmas Seal was born in Denmark.

Like all crusades the need for an emblem was early recognized. In 1906 a red Double-Barred Cross was adopted as the official emblem of the NTA. The Double-Barred Cross, standardized during the period 1906-1913, was registered in the United States Patent Office in 1920 as the trademark of the Association. This emblem has been the rallying symbol of the NTA and its affiliates as well as the volunteers engaged directly or indirectly in the fight against tuberculosis.

It took four years more to reach another peak in the integration. The Russell Sage Foundation was incorporated in 1907 and one of its first grants was the sum of $12,500 to the NTA the same year. Grants in decreasing amounts, as the Christmas Seal Sale increased, were continued until 1917. We today, in the light of the Christmas Seal record, are apt to forget the timely and valuable aid the tuberculosis movement received in its critical period from this foundation. With the grant from the Russell Sage Foundation, a publicity bureau, the first of its kind in the United States, was established in March 1908, and a directory of agencies interested in tuberculosis in the United States and Canada was prepared and published for the International Congress on Tuberculosis which convened in Washington, D.C., Sept. 21-Oct. 12, 1908. The Congress marked the nationwide interest and action in the tuberculosis movement.

State and Local Growth

This interest and action was reflected in the rapid increase in state and local tuberculosis associations. Every state had an organization by 1917. Local organizations sprang up like mushrooms in all sections of the country. There was corresponding growth in the number of tuberculosis hospitals for incipient and advanced cases and in the number of their beds, clinics and dispensaries, tuberculosis nurses, and in the education of the physicians, patients, and public.

From the very start emphasis was placed, in addition to the medical causes, on the economic and social factors of the scourge tuberculosis, as well as the importance for cure and prevention, of rest, good food, fresh air, cleanliness, higher standards of living, sanitary working places, freedom from

the pressure and fatigue of injurious occupations.

From 1908 on, the NTA firmly established, has changed and expanded its program to meet conditions imposed by new facts and new knowledge. The organization itself has been modified from time to time to adapt itself to the demands of experience. Its financial problems were met by the Christmas Seal Sale—the money-raising device without parallel in the United States.

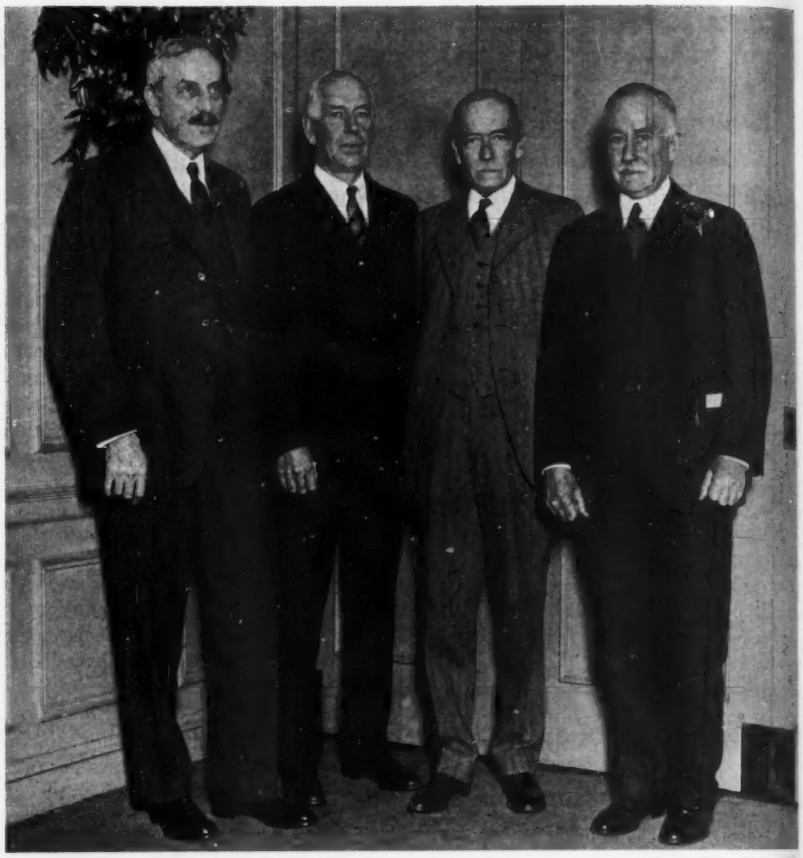
Budget and Staff

During the first years of its life the NTA had to struggle along on a budget that began at $10,367 and reached the sum of $33,750 in 1914. By 1918 the Association had slowly enlarged the budget to $100,000. In 1919 a joint effort by the American National Red Cross and the NTA brought to the Association a sum around $250,000. This figure has increased by annual increments to the point where the Association has been able to meet reasonably well the ever-expanding demands upon it. These demands were brought about by the widened grasp of the extent of the tuberculosis problem, the constant growth of the state and local associations, and the increasing population of the country as a whole.

Beginning with a staff of one office secretary in 1904, the professional personnel of the Association in 1905, consisting of two—the executive secretary and a membership secretary—was inadequate to meet the problem through 1918. In that year there were 11 professional staff workers employed. During 1919 the professional staff was enlarged to 22 individuals. From that year on the Association's professional staff has expanded normally to meet the demands that have arisen.

Distinguished Leadership

Throughout 50 years the growing and continued confidence of the professions and the general public in the integrity of the NTA has been a gratifying phenomenon. No breath of scandal has ever touched its operations or its decisions. Its Boards of Directors and officers, serving on a voluntary basis, have included names of many distinguished individuals. They have come from wide fields of activity, such as medicine, science, education, nursing, social work, law, labor, clergy, business, finance, and government. They have included both men and women of all races, creeds, and political beliefs. All of them have been imbued with the single aim—the crusade to control and conquer tuberculosis. Under their guidance the statistics of mortality and morbidity in the 50 years attest to a winning fight against the disease. It is possible to envisage victory if the battle is waged on the same lines and even if the key piece to the puzzle has not been discovered.



The four men who guided the destiny of the NTA as managing director during the years 1905-1947. Left to right, they are: Dr. Linsley R. Williams (1922-1928); Dr. Kendall Emerson (1928-1947); Dr. Livingston Farrand (1905-1914), and Dr. Charles J. Hatfield (1914-1922). The picture was taken in 1929, the year of the NTA's 25th anniversary.

The professional leadership of the organization has been of superior quality from the outset. Dr. Livingston Farrand served as executive secretary from 1905 to 1914. Dr. Charles J. Hatfield succeeded Dr. Farrand and served as executive secretary from 1914 to 1918 when the title was changed to managing director, under which title he continued until 1922. Dr. Hatfield was followed by Dr. Linsly R. Williams, who guided the Association from 1922 to 1928. Dr. Kendall Emerson took the helm in 1928 and continued until Dec. 31, 1947, when Dr. James E. Perkins became the managing director. Dr. Perkins is the leader today.

In brief compass this is the story of the NTA. Today we can say with Dr. Alan Gregg, "Like water downhill, attention flows to the future," as we await the key piece to the picture puzzle for the conquest of tuberculosis.

ATS—Past and Present

Five Thousand Members of the American Trudeau Society, Medical Section of NTA, Give Their Attention to Solving the Medical Problems of Tuberculosis

by Henry C. Sweany, M.D.

Dr. Sweany is Chief Medical Director of the Florida State Tuberculosis Board. His active membership in the American Trudeau Society, medical section of the National Tuberculosis Association, dates back to the early years, when it was still the American Sanatorium Association.

After the National Tuberculosis Association was formed in 1904, little time was required to recognize the need for a strictly medical organization to "promote the social and professional relations of the members and to advance the knowledge of sanatorium treatment of pulmonary tuberculosis." As a result of this need, and in terms of these objectives, the American Sanatorium Association, now the American Trudeau Society, was founded in 1905.

Nobody was as influential in activating this organization as Dr. Lawrason Brown. Much credit is also due, however, the charter members who attended the first meeting.

Dr. Bowditch First President

The first meeting was held Dec. 1, 1905, in the Museum of Natural History, New York City, with Dr. Vincent Y. Bowditch as president, Dr. Lawrence F. Flick as vice-president and Dr. Brown as secretary. Dr. Bowditch remained president for 14 years when Dr. Brown succeeded him for a period of four years. In 1923 Dr. J. W. Pettit of Ottawa, Ill., became president. Since then many other prominent physicians in tuberculosis work have taken their turn as president for a one year incumbency.

For many years two meetings a year were held—one in midwinter and one in spring. The need for cooperation with the NTA was soon evident, so the date of the spring meeting was set to precede that of the NTA Annual Meeting by one day. The mid-winter meeting was discontinued after 1922.

Through the years the two organizations have worked together, the NTA handling the non-medical and the ATS the medical aspects of tuberculosis work. This union has left the Society free to pursue its own policies in medical matters while the parent organization assists with experienced advisors, joint committees, personnel, and finance.

At the midwinter meeting in 1907, the first committee to revise the constitution and bylaws was appointed. Since then many changes have been adopted over the years in accordance with changing needs. By far the most important was begun in 1937 under Dr. Ezra Bridge and consummated in 1939 under the late Dr. Bruce Douglas. A completely new constitution was drawn up and the name of the organization was changed in honor of the man who did more than any other to awaken interest in sanatorium treatment of tuberculosis in America—Dr. Edward Livingston Trudeau. The Sanatorium Association thus passed into history and the American Trudeau Society came into being.

The above mentioned change was initiated by a resolution, adopted by the California section and presented by Dr. Everett Morris, which had as its aim the integration of activities of all tuberculosis societies and fusion of some of the medical groups.

Expansion in Work

The new constitution had as objectives "to act as adviser to the National Tuberculosis Association; to foster the *American Review of Tuberculosis* as the official organ; and to cooperate with other official and non-official agencies." Not more than 19 councillors, including four officers, were to constitute the ruling body. There were originally four permanent committees—executive, nominating, membership, and program.

There has been a gradual expansion to the present time so that all phases of tuberculosis work and especially the new antimicrobial and surgical treatments are actively dealt with. More recently, important committees include those on therapy, undergraduate and postgraduate medical education, tuberculosis in industry, clinic procedures, tuberculosis in general hospitals and penal and mental institutions, thoracic surgery, Pan-American relations, rehabilitation, and cooperation with the Board of Internal Medicine.

From the first 34 members, membership grew to 416 at the time of reorganization in 1939. By 1954 the membership had risen to the phenomenal figure of 5,150 and the ATS had become the leading tuberculosis society in the world.

An important feature of the expansion program was the fostering of state and regional sections. By 1954 there were 29 state and four regional societies throughout the country.

Publications

The *Journal of the Outdoor Life*, edited by Dr. Lawrason Brown and later by Philip Jacobs, was the official organ until publication was suspended in 1938. *The American Review of Tuberculosis*, present official journal, was edited by Dr. Allen Krause from 1917 until 1940 when Dr. Max Pinner became and remained editor until his death in 1948. Dr. Esmond R. Long then became editor-in-chief, serving in that capacity until 1951, when Dr. Walsh McDermott, formerly managing editor, became editor.

It was recognized early that sanatorium treatment must be standardized if it were to be uniform and satisfactory. One of the first moves, therefore,

was to attempt to establish standards for sanatoriums according to their facilities. The first plan was proposed and the report accepted in 1918, but it was not until 1927 that minimum standards were finally formulated and adopted. Practically no details were lacking. The physical plant, provisions for proper care of patients, food service, medical facilities, medical staffs, medical procedures for care of patients, dental, nursing, X-ray, laboratory, records, and many other features were considered in the reports. In revisions adopted in 1935 and more recently, changing methods were recognized and ancillary services were introduced.

Diagnostic Standards

The Rathbun classification of the disease into three stages of quantity and three sub-stages of quality was adopted in 1916. It is essentially the same as that used today. The change from the term "incipient" to "minimal" was made in 1921. Under the chairmanship of Dr. J. Burns Amberson, a committee changed the classification to include X-ray findings. New meanings were given to some older terms while other terms were dropped. The ninth edition of *Diagnostic Standards and Classification of Tuberculosis* was published in 1950 by the NTA under the chairmanship of Dr. Ralph Horton and has departed more widely from precedent than earlier editions.

Pathogenicity, pathology, especially the newer methods of culture diagnosis, bacteriology and X-ray (including mass surveys), exercise status, and tuberculin reactions have been given high priority as means of evaluation and classification of the disease.

The use of the X-ray was gradually extended. The 14″ x 17″ glass plates of early days were replaced by paper and acetate (fireproof) films. The 35 mm. (Abreuograph), 4″ x 5″ and 70 mm. films, and the Bucky, lordotic, and planographic methods were adopted at different times over the years for different purposes. McPhedran and Weyl's standardized methods, the "rotating anode" tube, Morgan timer, and a vast number of mechanical methods and devices have gradually been evolved until the X-ray today speaks a language undreamed of when Dunham first described his "cone of infiltration" as an early X-ray sign in pulmonary tuberculosis.

Laboratory Methods

Laboratory methods have also gone through great changes since the early days when about all that could be done was an acid-fast stain for tubercle bacilli. In 1911, E. R. Baldwin headed a committee on minimum standards of laboratory work. Petroff's method of culture, developed in 1915, was an outstanding achievement. It has been improved upon until practically every living tubercle bacillus may now be cultured. The Committee on Prognostic Indices reported in 1933 that "the erythrocyte sedimentation was valuable in detecting activity but was not always reliable." In 1939, the writer headed the Committee on Methods of Laboratory Procedures which were published for the first time, and there have been several reports and changes since.

After World War I the treatment of the disease began to change from "rest, food, fresh air, symptomatic and tuberculin treatment" to include all kinds of collapse therapy. In 1933 at Toronto, Canada, various committees reflected some of the changing trends. One report revealed that of 112 sanatoriums in 35 states, 39 per cent of the patients were receiving lung collapse. Heliotherapy was tried for orthopedic cases during the middle Twenties but gradually fell out of use.

Developments in Surgery

World War II taught surgeons the better use of anesthesia and blood. As a result, pneumothorax, thoracoplasty, and phrenic crushing began to give way to resection which appropriate committees dealt with as the needs arose. With surgery and the usual methods of treatment the death rates have fallen to only a fraction of the previous rate, although the morbidity has not yet been shown to decrease proportionately or even perceptibly, perhaps because of more case-finding surveys. Almost simultaneously came the various antimicrobials—streptomycin and PAS, then isoniazid and other agents—to bring about changes the like of which the medical world had never witnessed before. It is surely of the greatest satisfaction to those like the writer who have lived through some of the early years of the tuberculosis movement when so little could be done to the present "Golden Age" when death rates have tumbled precipitately and complete eradication of the disease is spoken of and actually predicted.

The new methods have fanned out so fast that it is difficult to keep abreast with progress. Committees on therapy of the Trudeau Society and other organizations are taxed to the limit to keep up with changing trends and newer procedures. The efforts of the United States service organizations, especially those of the Veterans Administration under Dr. John Barnwell, in cooperation with the Society, have done more to curb tuberculosis in ten years than has been done in all those preceding.

Expansion In Research

The tremendous upsurge of antimicrobial therapy caused expansion of the NTA's Medical Research program which is under the supervision of the ATS.

Under the over-all direction of Dr Long the program has branched out into many fields of experimental work and integrates activities with the many service groups, the National Research Council, universities, and other organizations. By 1954, the program had been broadened to extend to many institutions and individuals country-wide. In addition medical research and teaching fellowships are granted a number of young men and women of promise.

It is extremely difficult to predict the future of the ATS. There is every indication, however, that the growth will continue until the tuberculosis problem is long since on the wane. That time is not yet on the horizon but it will surely come. Perhaps, some of us will live to see the White Plague, the most terrible scourge of all time, fade into insignificance. Probably, the greatest regret would be that the great pioneers of the past, especially those who were active in organizing and fostering the growth of the ATS, could not have enjoyed the same privilege.

The NCTW Story

Strong, Vocal Organization of Paid Professionals, the National Conference of TB Workers, Plays Big Part in Molding Policy and Improving Program

by Robert G. Weymueller

Mr. Weymueller is Executive Secretary of the National Conference of Tuberculosis Workers, a post which was created in 1952 and which he has held since that time. He was formerly Assistant Executive Director of the Stark County (Ohio) Tuberculosis and Health Association.

Standing as a singular tribute to the National Tuberculosis Association in this fiftieth anniversary year is the strength and stature enjoyed by another organization—the National Conference of Tuberculosis Workers.

For the NTA, unique among national voluntary agencies in delegation of responsibility to state and local levels, has proved unique, too, in its encouragement of a strong, vocal organization of workers in the field. The wisdom and inherent good sense of this attitude are perhaps taken for granted today. Yet in those early, exploratory days it would have been easy to ignore and even discourage such an organized voice of the workers.

Mutual Respect

There were occasional variances of opinion between the two organizations, to be sure, and the stature the Conference desired took time to attain. But the important thing to us as well as our predecessors is that from these beginnings and cautious adjustments to the other's position grew a healthy, vital respect of the positive contributions to be made by each. The history of the national movement is filled with practical, important ideas contributed by the Conference to dramatic program developments that give all cause for pride. To the everlasting credit of the Conference, its past reflects from the start how tuberculosis workers demonstrated the maturity and responsibility equal to the opportunity that was and is theirs.

Those now concerned with today's changing tuberculosis challenge should keep in mind how the following brief summary of those bygone years of Conference development actually underscores its place in the future of both the movement and the individual tuberculosis worker. A history of the Conference has been compiled by Mrs. Elizabeth Stoltenkamp Paterson, recording secretary from 1931 to 1950. The interesting accounts of those formative years contained in Mrs. Paterson's manuscript are invaluable in giving continuity to NCTW records and they provide the references used here.

When agreement was reached to include the word "prevention" in the title, National Association for the Study and Prevention of Tuberculosis, the seeds were sown for the evolution of the lay tuberculosis worker and ultimately the National Conference. Prevention, of course, meant the new organization would be dedicated to promoting community action and education as well as scientific research. The problem then was to develop the status of the association secretary and to establish his position in the movement. The Conference was to prove of vital help.

Strength in Unity

Countless words and formal phrases have been put on paper to define the purposes of the National Conference, but none is more meaningful than the statement made in 1916 by Walter Thurber, then of Indiana, "By the continued interchange of ideas, will the National Conference perform the mission for which it was created . . . One secretary working alone can accomplish comparatively little, but working together as we do in this Conference, we are a mighty force for good. Let us develop this force to its highest possible power by helping one another . . ." What Walter Thurber said in 1916 might have been said today.

From the very moment in 1909 that five tuberculosis secretaries first met together to share common problems and knowledge, the individual and what is of value to him have been foremost in Conference concepts. It wasn't enough to provide a channel of communication to the national level from the field. It had to be a two-way channel, with workers receiving as well as giving. The "famous five" that day were William C. Smallwood, New Jersey; John A. Kingsbury, New York; Ernest D. Easton, Newark, N.J.; Alexander M. Wilson, Boston, and H. Wirt Steele, Maryland. Then there were only 32 paid executive secretaries throughout the country. The number was increasing, however, and the idea which culminated in the Conference began to take form.

The spirit engendered in 1909 led to informal meetings during the next two years at time of NTA Annual Meetings and finally, on Sept. 24, 1912, the National Conference of Tuberculosis Secretaries was born, small but enthusiastic. These pioneers, with the other five, are now recognized as the 12 founders: Sherman C. Kingsley and James Minnick, Chicago; Robert G. Paterson, Ph.D., Columbus; S. Poulterer Morris, Denver; Dr. Hoyt E. Dearholt, Milwaukee; F. Elisabeth Crowell, R.N., New York, and Dr. Robert H. Bishop, Cleveland.

Accent on Action

Electing Dr. Dearholt its first president, the Conference quickly put the accent on action. Arrangements were

made with the NTA for a special day for secretaries in advance of the Annual Meeting, and the Conference urged greater emphasis upon administrative matters at the Association's sociological sessions. The latter was of keen interest to the secretaries in those days of predominantly medical leadership. That was also before the National Association adapted its organization to the pattern familiar now, and members active in the Conference were constantly encouraging the National to increase lay participation on its Board of Directors as well as to provide for direct voice in National affairs for state associations through means of representative directors on the Board. Both desires, of course, were eventually realized.

Part of the vitality and growth of the Conference was assured by an early decision to avoid any limitation of membership or elective provisions. As tuberculosis associations were organized rapidly over the country and as the number of tuberculosis workers increased almost as rapidly, the secretaries welcomed to their ranks all professional tuberculosis association workers. Finally, in 1951, the name was changed to officially signify this fact.

No Separate Organization

There were those members in the first years of the Conference who believed it should assume more than an advisory role nationally. Lack of funds and staff by the National Association then negated any extensive field service. However, when a proposed constitution, which called for incorporation of the Conference and a wide scope of activities, was presented in 1914, it was rejected and ordered redrafted. There were instructions to include the sentiment that a close and sympathetic affiliation should exist between the Association and the Conference; that there be no separate incorporation, and that the purposes and objects permit the Conference to cooperate with and supplement the work of the National Association. This done, and accepted by the members as the first NCTS constitution, the basic philosophy which was to place the Conference on such solid footing in the years to come had been crystallized.

At the urging and with support of Conference members, the NTA during the next few years was able to provide field service, so vital in coordinating sound programs across the country. Regional conferences were inaugurated and the first institute for tuberculosis workers was held in 1916. A program of professional training and advancement, a fundamental desire of all tuberculosis workers, had started. Never slacking in its interest in this regard, the Conference in later years encouraged NTA to publish a standard of qualifications for tuberculosis workers; provided an annual public health scholarship for several years, and helped stimulate interest in the establishment of a National personnel division. Through the cooperation of this division, Conference members now periodically receive Job Opportunity Announcements.

Local Repesentation

In 1922 and 1923, the Association Board and Conference Executive Committee made mutual efforts to define their relationship more effectively. The first joint meeting of the two was held in 1922 and the National Association for the first time officially recognized the spokesman's role of the Conference. A new NCTS Constitution was adopted in 1923, providing representation for local associations on the Executive Committee in addition to an NTA staff representative. The Executive Committee was designated as governing body and representative of the Conference. Advisory committees were now in existence with their value recognized by both NCTS and NTA. A definite feeling of cooperation had taken root between the two. The voice of the tuberculosis worker became increasingly important from that point on in the councils of the NTA.

The impact of the Conference on program developments down through the years has been truly impressive. One only has to think of the Conference support given the Modern Health Crusade, its vigorous promotion of the Early Diagnosis Campaign, and its help in the evolution of an all-inclusive health education program, mass X-raying, and the rehabilitation program. Other items of basic importance to the field that come readily to mind are the Christmas Seal Study Club, surveys and recommendations on supply service, support of annuity coverage, as well as our own Emergency and Loan Fund for members, requests for a stronger stand against participation in federated fund campaigns, and advice on manuals and materials of all descriptions.

Broader Responsibilities

With the Conference voice being heard during recent months on such matters as program expansion, contract revisions, International Union Against Tuberculosis, and Authorized Forms revisions, there is no doubt that the future responsibility of the NCTW is great. Those attending the two membership sessions in Atlantic City this month will hear this fact documented.

Yes, the Conference has more than assumed its opportunity and its responsibility. The "volunteer" professionals who have given so readily and devotedly of what little free time they have to serve the Conference have seen to that. They have given us an organization whose voice is representative and whose viewpoint is always registered at national meetings. Now with its first full-time executive secretary and 1,100 active members, the NCTW has a wonderful opportunity to demonstrate further its capacity for wise counsel and practical help.

Dr. Robert Paterson, founder and long-time leader, seemed to sum it up when he said: "Throughout the years, the problems that have confronted the National Conference have changed in character but in substance they have remained the same —namely, the integrating of ideas and individuals into a harmonious working relationship. Its representativeness and its mechanism provide an ideal setting for testing and evaluating ideas and for making ideas work."

State and Local Assns.

Hopes of NTA Founders Realized in 50-Year Growth and Development of Voluntary Citizen Groups Banded Together to Fight a Common Enemy

by Pansy Nichols

Miss Nichols is Executive Secretary of the Texas Tuberculosis Association. An active member of the National Conference of Tuberculosis Workers for more than 30 years, she served as its President in 1941 and as Secretary in 1939 and 1940.

Koch announced his discovery of the tubercle bacillus on March 24, 1882. Its importance was still being argued by the medical profession ten years and one month later when—on April 22, 1892, in Philadelphia—a group of people led by Dr. Lawrence F. Flick organized a society. According to Esther Gaskins Price, author of the National Tuberculosis Association publication, *Pennsylvania Pioneers Against Tuberculosis,* "you didn't have to be an M.D. to belong; you could be a man or a woman; but you had to believe that tuberculosis was contagious and preventable."

The organization founded by Dr. Flick and the men and women who shared his belief that tuberculosis was contagious and preventable was the Pennsylvania Society for the Prevention of Tuberculosis. It was the first of the approximately 3,000 state and local tuberculosis associations in the United States today and the pattern followed in establishing the NTA in 1904.

Basic Methods

The methods which Dr. Flick and his co-workers decided would accomplish the purpose of their Society—the prevention of tuberculosis—are recorded as follows:

1. Promoting the doctrine of the contagiousness of the disease.
2. Instructing the public in practical methods of avoidance and prevention.
3. Visiting the consumptive poor and supplying them with the necessary materials with which to protect themselves against the disease, and instructing them in their use.
4. Furnishing the consumptive poor with hospital treatment.
5. Cooperating with boards of health in such measures as they may adopt for the prevention of the disease.
6. Advocating the enactment of appropriate laws for the prevention of the disease.
7. Such other methods as the Society may from time to time adopt.

This program was adopted at the second meeting of the Pennsylvania Society on May 12, 1892. The members also appointed a committee on printing and literature, a legislative committee, a hospital committee, and a committee to work with the board of health.

Knopf, in his *History of the National Tuberculosis Association,* states that the Ohio Society for the Prevention of Tuberculosis—founded Nov. 14, 1901—is, next to the Pennsylvania Society, the earliest state association still in existence. There appear to be 13 local associations extant today whose organizations preceded that of the NTA. Like the state associations in Pennsylvania and Ohio, however, their names have been changed to denote programs of greater scope than those with which they began.

The basic need of citizen tuberculosis associations is implicit in the remarks made by Dr. Edward Livingston Trudeau in his presidential address at the first annual meeting of the NTA in 1905:

"To accomplish its purpose, the National Association should be something more than a medical society devoted to the study of tuberculosis. Its watchwords should be Organization and Cooperation—an organization so perfect and a cooperation so broad that, through education, it will bind together for the attainment of a common aim the laity, the profession, the state and the nation."

National Promotion

The NTA decided that the tremendous job of informing, interesting, and educating the general public about tuberculosis and steps for its detection and control should be undertaken in the different states and communities by

One of the travelling tuberculosis exhibits used by the NTA early in the century to stimulate the growth of state and local tuberculosis associations.

public spirited citizens from various walks of life. Early in its history it began to promote such organization.

In the years between 1905 and 1912, the NTA stimulated the organization of state and local associations by sending a large traveling tuberculosis exhibit to cities east of the Mississippi River. This project was in charge of the late Evart G. Routzahn. He would spend two or three weeks in each city prior to the arrival of the exhibit, forming local committees to publicize the show and promote attendance, to help obtain local speakers, and give stereopticon lectures about tuberculosis at meetings held in connection with the exhibit, which would be in a city for ten days or two weeks. At the end of the period Mr. Routzahn would form a committee for the prevention of tuberculosis.

In 1909 the NTA built and assembled another tuberculosis exhibit and sent it on a tour of cities west of the Mississippi. It was in charge of William L. Cosper who pursued the same pattern that had been evolved by Mr. Routzahn. (A waggish individual, advocating local use of these traveling tuberculosis exhibits at one of the early meetings of the NTA, referred to them as "peripatetic lung shows.")

Texas Organized In 1908

The International Tuberculosis Congress, held in Washington in 1908, served as a great stimulus to the organization of state and local associations. One of them, the Texas Tuberculosis Association, actually was organized on a special train carrying a delegation of 100 Texans to that meeting. Led by their state health officer, Dr. W. M. Brumby, they were hopeful of finding some solution to the staggering problem created by the "migratory consumptives" flocking to Texas and the Southwest in the belief that the climate would cure their disease.

Interviewed by the press about this problem of migratory patients some months prior to his trip to Washington, Dr. Brumby had called attention to the fact that the quarantine laws of Texas authorized him "to bar contagious diseases from the State." Whereupon, he says, newspapers from Maine to California headlined *Quarantine by Texas Against Consumptives,* and censured Dr. Brumby severely for his "inhumanity to man." After he explained the situation in letters to the editors, he relates that the major papers "wrote very considerate editorial comments, advocating local responsibility for the care and prevention of tuberculosis and urging generous appropriations by their legislatures to bring this about."

At the International Congress the Texas delegation, joined by delegations from other Southwestern states, presented resolutions which, Dr. Brumby says, "called attention to the tide of immigration of advanced and hopeless cases of tuberculosis from the Eastern States that was swamping the charities of the people of the Southwest, and demanding of state and county authorities of the nation that they stand sponsor for their pauper tuberculous, and urging legislation that would cause communities to look after their own afflicted."

One of the early educational pamphlets of the NTA, widely circulated by associations in the Southwest, concerned the problem of the indigent migratory consumptive.

Seal Sale a Factor

The Christmas Seal Sale was an important factor in the growth and development of state and local tuberculosis associations. After it really began to grow in 1916 and 1917 there was a rapid growth in local associations. Perhaps the greatest period of growth and development of associations such as we have today occurred between 1917 and 1925.

The policy of letting the bulk of the Christmas Seal money remain in the states and localities in which it was raised has enabled both local and state associations to undertake and maintain far more substantial programs of work than would otherwise be possible.

Likewise, the policy of *annually* granting or withholding the Christmas Seal Contract has been instrumental in the development of better standards of organization, programs of work, and performance, by both state and local associations.

The 1918 Seal Sale Contract is of historic interest in that it included a proviso that Christmas Seal funds should be spent in accordance with a schedule listing the approved lines of tuberculosis work in the order of their *relative value* in the *prevention* of tuberculosis.

Among the priorities listed was health education, especially health education that would be directed toward the establishment of legislative authorities of public tuberculosis hospitals, and toward establishment of divisions of tuberculosis or other definitely organized tuberculosis activities in state and local health departments. At the bottom of the list of measures, set forth in the order of their relative value, were placed payment from Christmas Seal funds of patients' expenses to hospitals and their maintenance therein. This last was quite early recognized as a job for the public welfare authorities to assume and finance from tax funds.

Professional Personnel

The term "executive secretary" was used for the first time in a Seal Sale Contract in 1918. It recommended that executive secretaries be employed in communities having a population of 30,000 or more.

Five executive secretaries were employed by state or local associations as early as 1905. There were about 32 in 1909. By 1918 it became apparent that many local associations needed to employ executive secretaries to supplement, foster, and expand the indispensable services of their volunteers, officers, directors and general membership. The New York State association was most active in encouraging its locals in this direction. By 1922, 36 local associations in that state had employed full-time executive secretaries in contrast to only four employed in 1918.

The inauguration by the NTA of training programs for tuberculosis workers, as well as training offered by state associations, has enhanced the quality of the work done by the professional paid employees of the associations, of whom there are now approximately 1,800.

There are thousands of volunteers serving as directors on boards of the 3,000 state and local associations which are now at work in the United States and its territorial possessions.

It may be that the growth and development of the affiliated tuberculosis associations in the past half-century has exceeded our founders' expectations.

Who Are the Volunteers?

Public-Spirited Citizens, Doctors and Laymen, Giving of Their Knowledge and Time in Generous Measure To Help Build a World Free From TB

by Bailey B. Burritt

Mr. Burritt is Executive Secretary of the Health Maintenance Committee of the Community Service Society of New York, a position which he has held since his official "retirement" in 1944 as senior executive of the Society, after nearly 40 years in public health and family welfare work.

The movement to control tuberculosis in the United States is carried forward by volunteers, public officials, physicians, and paid professional workers. All of these march forward on the foundation of the discovery and practical application of modern science. The movement could not have had the success which it has achieved without the happy marriage of all of these groups. At every stage, however, from its beginnings to the present-day extensive organization, volunteers have been the democratic base on which the edifice has been built ,and physicians have been its instigators and guiding leaders.

Who Are The Volunteers?

Any consideration of volunteers in the tuberculosis movement raises the question: "Who are volunteers? How do we separate them from the professional and paid workers?"

Fortunately, a precise definition is neither necessary nor desirable, as success for the cause has always been due in large measure to their effective intermingling. As an example of this, when the Charity Organization Society of New York City, recognizing the devastation caused to family life by tuberculosis, decided to do something about it, it brought together a fine intermixture of medical and nonmedical people. In the beginning these were all volunteers.

The first meeting to organize the "Committee on the Prevention of Tuberculosis," held June 16, 1902, was called to order by the influential civic leader, Robert W. DeForest. Influential leaders in business, medicine, social welfare, and other walks of life were present. A layman, Charles F. Cox, treasurer of the New York Central Railroad, was appointed chairman of the new committee. Dr. James Alexander Miller, who for many years was a great leader in the movement and an essential factor in its success, was a member and later became its chairman. One of the most influential members of the committee was Dr. Hermann M. Biggs, another great leader, not only in the tuberculosis movement, but in the whole public health movement. Edward T. Devine, Ph.D., a leader in social service, and at that time general secretary of the Charity Organization Society of New York, was its first acting secretary. These three men were all professionals, but for the purposes of the committee they were giving voluntarily of their time and experience, and like the lawyers, the businessmen, and the influential people who made up the committee, they were volunteers.

Two years later, upon the initiative of nationally known physicians interested in tuberculosis, the National Tuberculosis Association was formally organized at Atlantic City on June 6, 1904. In its organization it made an important decision, which affected greatly the utilization of volunteers, by following the precedent of New York in including laymen as well as physicians in its organization. As a result, distinguished leaders from all over the country were included in the meeting at Atlantic City. The principle of intermingling medical and nonmedical leadership was thus well established in the early years of the movement.

Indispensable Task Force

These illustrations are typical of the subsequent organization of the whole country and demonstrate how indispensable volunteers have been in the tuberculosis movement. Its organization has always been built upon the fine intermingling of men and women from all walks of life. This intermingling of leaders of thought and action has formed and directed the committee and the boards that have done the planning, carried on the educational efforts, organized the communities, and secured the necessary voluntary gifts and public funds.

These volunteers, effectively organized in each community and supported by public opinion which they have created, constitute the force that has carried out step by step the actions that have brought about the extraordinary results that have been achieved.

Beginnings of Control

A historical look at how a community begins to function in the field of tuberculosis emphasizes the significance of volunteers. It has, as a rule, a nucleus of a health department and an official health officer, and some hospital provision for the care of acute and chronic illness, with little special provision for clinic and hospital care of patients with tuberculosis or for their supervision in their homes. The need for more adequate provision for the control of tuberculosis having been recognized, a small group of leading citizens that are concerned with this, meet to consider possibilities. They decide that to accomplish results, a local continuing committee is essential. They then decide to create a local tuberculosis organization.

The organization is gradually perfected and an executive secretary or

director is found to be necessary and is secured. A control board is made up of volunteers. With the assistance of the executive, plans for work are developed. Other subcommittees gradually become necessary to carry on the work, and more volunteers are enrolled to man these subcommittees. All of these are representative of the various groups and major interests of the community.

The specific things needed to supplement the existing facilities of clinics, hospitals, and personnel are spelled out. Funds from official as well as voluntary sources are needed. Persistent efforts are made to bring these things before all the citizens and this results in securing additional funds. In these ways, a local tuberculosis control movement is on its way.

Year after year, these efforts are renewed as the situation is more clearly recognized as the result of experience, and each year sees additional strengthening of the various items required for further protection of the public from this disease. At every stage, the standards and quality of the work done are clearly seen to be be involved. Careful studies of these and other problems, as they arise, are made. Information about the conclusions reached is widely spread and the influence and personal educational work of the many volunteers supporting official leadership secures the gradual adoption of the more important recommendations.

Christmas Seal Sale

In this way, real progress is secured in the control of tuberculosis in the community. It is to be noted that this progress is to a large degree the result of the work of volunteers organized for the purpose and carried on with zeal year after year.

The annual Christmas Seal Sale was early developed as a means of securing voluntary funds. This annual event, carried on by each of the local organizations affords an opportunity to bring in — often on a temporary basis—another large group of volunteers. They assist in bringing the facts about the control and the steps necessary to secure it to all persons in the community. These volunteers are used to assist in the clerical work, in the large mailings to the public, or to help in maintaining solicitation centers in places of concentrated human traffic, or in special speaking engagements that are an essential part of the whole effort.

An additional means of informing the citizens about the movement and its needs is carried on by most local organizations through organizing a list of well-informed medical and non-medical persons available as public speakers and scheduling opportunities for their appearance on television, on radio, and on the public platform. These in turn are volunteers and historically have been a valuable part of the movement.

State-Wide Organization

Visualize now, if you will, nearly every community in a given state, with its local tuberculosis organization of volunteers. This creates an enormous state-wide educational and action force. In the development of the tuberculosis movement, this organization of civic leaders in each community in each state and county is a most potent force in developing an interested and informed citizenry that participates in the movement and supports step by step, year by year, the acquisition and maintenance of new facilities and additional trained personel as their need becomes apparent. This keeps the movement abreast of new scientific developments and new demonstrated methods of procedure.

To correlate the activities of these numerous local organizations in the state and make them more effective, a state-wide tuberculosis association is formed, consisting largely of volunteers representing the locals. This state-wide organization of volunteers, with its executive staff, has been a potent force in assisting each city and county in the state to organize and maintain a permanent organization of volunteers; in developing with the help of local representatives state-wide plans; in securing state-wide legislation; in assisting in the conduct of local Christmas Seal Sales, and in helping to make certain that all funds raised and expended for the control of tuberculosis are used wisely.

In the early beginnings of the whole movement, the National Tuberculosis Association was organized. This, too, is a group of volunteers with an executive staff. Volunteer representatives from each of the state organizations make up the controlling body of the National organization. This body has given great national leadership to the whole movement. It has provided planning on a national scale and it has given greater cohesiveness and unity to the whole effort of the local and state organizations. In other words, the whole non-official tuberculosis movement is made up structurally of local-community, state-wide, and nation-wide organizations of volunteers.

These obvious and well-known facts are stated to focus attention on the fact that volunteers are the foundation on which the tuberculosis movement has been built and achieved its results.

The American Way

The organization and development of the tuberculosis movement has not only fitted in with the whole American concept of voluntary leadership in public health and social welfare effort, but has also given great impetus to this very movement. A very important phase of American life is carried on by volunteers. No great public civic movement makes real headway without the participation of large numbers of citizens. The tuberculosis movement stands in the forefront of these movements and can with justification point with satisfaction to the great body of volunteers organized in nearly every state and county of the United States as a potent force that has brought the tuberculosis movement to its present status. In this way, it has laid the foundation for volunteers to play an ever-increasing part in the ultimate control of tuberculosis, to the point where it no longer is a serious threat to American public health.

Efforts To Give Representation to All Community Groups May Be Seen From NTA Analysis of . . .

Board Composition

by Mary Dempsey

Miss Dempsey is Statistician for the National Tuberculosis Association, a post which she has held since 1941.

The National Tuberculosis Association, its 56 constituent (state) associations, and 1,030 of the 1,036 affiliated (local) associations which employ paid executives have reported that they have 31,740 individuals on their Boards of Directors. Six of the 1,036 affiliated associations did not send in reports covering membership of their boards. If these six associations had reported, the total number of directors on boards of tuberculosis associations of all types would be approximately 32,000. In view of the large number of local associations in several states, however, the fact that reports are missing from only six affiliated associations indicates the excellent response made to the questionnaire on board composition by constituent and affiliated associations throughout the country.

First Analysis

An analysis of the boards of the National Association and of the 56 constituent associations was completed by the NTA statistical unit in June 1953; this was the first study ever made of this subject. During the past year, questionnaires were sent to the constituent associations with the request that each of their affiliates which employed a paid executive should submit the names of its board members, as well as their occupations; as already stated, 1,030 of the 1,036 complied with this request. The study has been limited to those affiliated associations which employ paid executives for the reason that it is much simpler to obtain the requested information from these executives than it would be from volunteers; moreover, some of the 2,000 additional affiliates which employ no paid executives do not have organized boards of directors.

The following constituent associations have no local affiliates: Delaware, District of Columbia, New Hampshire, North Dakota, Vermont, Wisconsin, Wyoming, Chicago, Brooklyn, New York City, Queensboro, and Alaska.

It seems very simple to determine the number of affiliated associations which employ paid executives in a given state. If the state is large and rather completely organized, however, this determination may represent quite a feat. For example, in a few states the local association having a definite contract with the constituent association may be in reality a Visiting Nurse Association, one branch of which is devoted to the usual activities of a local tuberculosis association. Because of a number of such complications, it is difficult to determine accurately just how many local associations do employ paid executives, either full or part time.

All information submitted in connection with this study indicates that there are 1,036 such local associations in the United States, including Hawaii and Puerto Rico. An affiliated association which employs a paid worker, such as a social worker or rehabilitation worker assigned to a local hospital, a health educator or dietitian engaged in the school health program, or clerical employees assigned to Seal Sale, but no paid executive, is not included in this study.

The approximately 32,000 board members who determine policies for tuberculosis associations of all categories comprise 36 of every 100,000 Americans 25 years of age and over. On the average, the 56 constituent associations have 59 board members each with a range from nine in South Dakota to 162 in Minnesota. Boards of affiliated associations average 28 members each, with a range in size from three members to 159 members. Approximately 20 affiliated associations report boards consisting of fewer than seven members, while four local associations have 100 or more board members.

Sex of Board Members

One is interested to learn that 47 per cent of the 31,740 directors in all tuberculosis associations are women. Table 1 shows that this proportion ranges from 11 per cent in the National Association to 37 per cent in the constituent associations and to 47 per cent in the affiliated associations. Among the

Table 1
Board members of tuberculosis associations with paid executives, and number and per cent of women directors, classified by type of association

Type of association	Number of associations	Total board members	Women board members	
			Number	Per cent of total
All types	1,093[1]	31,740[1]	14,563	45.9
National Tuberculosis Association	1	108	12	11.1
Constituent associations	56	3,301	1,232	37.3
Affiliated associations	1,036[1]	28,331	13,319	47.0

[1]Six affiliated associations did not report their board membership.

constituent associations, Wisconsin has by far the lowest proportion of women board members—only five per cent; in Iowa, on the other hand, 69 per cent of the state associations' board members are women.

Table 2, on this page, shows the principal occupations of board members in the various types of tuberculosis associations. In some areas a wide representation of occupational interests exists, whereas in others the boards are composed of persons from but a few specified occupational groups. Some associations have a preponderance of persons classified as "not employed," including housewives, civic leaders, club women, and retired persons. Some years ago, the boards of many associations were primarily made up of physicians, but an effort has been made to have the composition of boards more representative of various groups in the community. With regard to physician membership on Boards of Directors, 2,323 of those listed as "other physicians" are in private practice. The remaining 50 in this group were employed either in industrial or labor organizations. The 2,323 physicians in private practice, therefore, constitute 76 per cent of the 3,044 physicians, while only 350 or 11 per cent of the medical board members are employed by official agencies.

Many Groups Included

Although this preliminary analysis does not include a breakdown of the category listed as "all other occupations in Table 2, the variety of occupations represented gives ample evidence of the efforts affiliated associations have made to include on their boards representatives of as many occupations as possible in the community.

Included in this grouping of all other occupations are at least 40 individual classifications. Some of the more prominent occupations were editors and journalists (410); accountants and bookkeepers (198); executives of community agencies (194); social workers (165); undertakers (160); dentists (159); bank cashiers and tellers (154); labor union representatives (140); persons employed in some capacity in radio and television (116); personnel managers and directors (105), and druggists and pharmacists (105). These occupational classifications represent about two thirds of all other occupations.

Surprising Variations

One finds a few surprises in this tabulation. For example, on the Boards of Directors of affiliated associations businessmen and industrialists comprise a much larger proportion of the directors than do physicians. The reverse is true so far as boards of constituent associations are concerned, while on the Board of Directors of the National Association 58 per cent are physicians and only ten per cent are businessmen and industrialists. The high percentage of physicians on the National board is partly traceable to the fact that the constituent associations which nominate the representative directors are likely to name medical men.

It is also surprising to learn that educators on the Boards of Directors of affiliated associations are almost as numerous as physicians. On the other hand, nurses, social workers, and clergymen are far less numerous than might have been expected. Probably no point is more significant than the fact that such a large number of lay persons, the overwhelming majority of whom were housewives, participated as board members both for constituent and affiliated associations.

A more detailed analysis of the occupational composition of board members in affiliated associations will become available in the near future.

Table 2
Board members of tuberculosis associations, classified by occupation

Occupation	National association		Constituent associations		Affiliated associations	
	Number	Per cent distribution	Number	Per cent distribution	Number	Per cent distribution
All occupations	108	100.0	3,301	100.0	28,331	100.0
Occupations of employed persons	98	90.7	2,226	67.4	18,202	64.2
Physicians	63	58.3	792	24.0	3,044	10.7
In hospitals	22	20.4	87	2.6	250	0.9
In colleges or schools	5	4.6	40	1.2	71	0.3
In official agencies	16	14.8	107	3.2	350	1.2
All other physicians	20	18.5	558	16.9	2,373	8.4
Businessmen and industrialists	11	10.2	520	15.8	4,964	17.5
Educators	8	7.4	268	8.1	2,702	9.5
Lawyers and judges	10	9.3	145	4.4	858	3.0
Clergymen and religious workers	1	0.9	71	2.2	764	2.7
Officials[1]	—	—	68	2.1	901	3.2
Nurses	1	0.9	66	2.0	810	2.9
Clerical workers and salesmen	—	—	39	1.2	754	2.7
Farmers	1	0.9	25	0.8	596	2.1
All other occupations	3	2.8	232	7.0	2,809	9.9
Occupations of persons not employed	10	9.3	889	26.9	9,726	34.3
Lay persons (housewives and civic leaders)	9	8.3	832	25.2	9,238	32.6
Retired persons	1	0.9	57	1.7	488	1.7
Occupations not reported	—	—	186	5.6	403	1.4

[1]Except physicians and educators employed by official agencies.

Tuberculosis Workers Find Place
For Discussion of Common Problems
And for Interchange of Ideas in . . .

Regional Conferences

One of the brightest chapters in the story of the fight against tuberculosis in the United States during the past 50 years is that on the organization of all forces working toward the common goal—control and eventual eradication of the disease—not only on national, state, and local levels, but regionally as well.

It was recognized quite early that no two cities in the nation had exactly the same problem and that no two geographical areas could fight tuberculosis in precisely the same way. The problem in the South, for example, differed from that in the North. It was again different in the Southwest. Regional organization was needed to provide a place for the interchange of ideas and experience and to bring about a closer relationship between tuberculosis workers in a given area.

First Sectional Groups

Even before the founding in 1904 of what is now the National Tuberculosis Association, informal sectional cooperation, some sharing of ideas, had taken place. By 1908, with the organization of state and local associations under way, antituberculosis leaders were discussing the need for area groupings designed to supplement the work of the National Association and to increase the effectiveness of the state and local associations.

With the encouragement of the National Association, and with the active leadership of George J. Nelbach, then president of the National Conference of Tuberculosis Secretaries, three regional groups came into formal existence in the fall of 1914. They were the Mississippi Valley Conference on Tuberculosis, organized Oct. 5-6 in St. Louis, Mo.; the Southern Tuberculosis Conference, which met officially for the first time in Atlanta, Ga., Nov. 30, and the New England Tuberculosis Conference, which held its first formal meeting in Bangor, Me., Oct. 22. A fourth group, the North West Tuberculosis Conference, was set up in 1917 and functioned for approximately five years before disbanding. Still others, the North Atlantic and Rocky Mountain Conferences were in existence for short periods between 1914 and 1938.

The four existing conferences are the Mississippi Valley Conference on Tuberculosis, the Southern Tuberculosis Conference, the New England Tuberculosis Conference, and the Western Tuberculosis Conference. The first two have functioned continuously since their organization. The third, which functioned for more than 30 years after its founding, was discontinued in 1946 and reactivated in October 1951. The Western Tuberculosis Conference was set up in September 1953. At present there are but five states which do not belong to any regional group. They are California, Delaware, New Jersey, New York, and Pennsylvania.

Past and Present Conferences

As presently constituted, the Mississippi Valley Conference comprises Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North and South Dakota, Ohio, Wisconsin, and Chicago, Ill.

Records show the first president of the Mississippi Valley group to be A. W. Jones, Jr., St. Louis, Mo., and the secretary-treasurer as Walter D. Thurber, Indianapolis, Ind. Its present officers are Chester D. Kelly, executive secretary, Indiana Tuberculosis Association, president; Dr. Harold M. Coon, Madison, Wis., vice president, and Ben D. Kiningham, Jr., executive director, Illinois Tuberculosis Association, secretary-treasurer.

The Southern Conference includes Alabama, Arkansas, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North and South Carolina, Oklahoma, Tennessee, Texas, Virginia, and West Virginia.

First officers for the Southern Conference were Hugh M. Willett, Atlanta, Ga., president, and Miss Rosa Lowe, also of Atlanta, secretary-treasurer. Its present officers are Dr. C. M. Sharp, Jacksonville, Fla., president; Miss Marietta Rocquet, executive secretary, Tuberculosis Association of New Orleans, La., vice president, and Bryan Wilson, executive director, Shelby County (Tenn.) Tuberculosis Association, secretary-treasurer.

Six states make up the New England Conference—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. Dr. Vincent Y. Bowditch, Boston, Mass., served as first president of the Conference and A. J. Torsleff, Bangor, Me., was its first secretary. Present officers are Miss Ruth C. M. Anderson, executive secretary, Rhode Island Tuberculosis and Health Association, president; Mrs. Lawrence T. Bartlett, New Canaan, Conn., vice president, and Miss Marion H. Douglas, executive director, Visiting Nurse Association, Hartford, Conn., secretary-treasurer.

The Western Conference includes Arizona, Colorado, Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Washington, and Wyoming. Edward J. Walton, executive director, Colorado Tuberculosis Association, is president of the Conference. Its other officers are Dr. D. W. Zahn, Seattle, Wash., vice president, and Miss Helen Watkins, executive secretary, Arizona Tuberculosis and Health Association, secretary-treasurer.

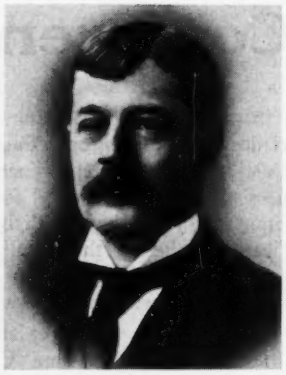
Played an Important Role

In the four decades since 1914, the regional conferences have played an extremely important role in the campaign against tuberculosis and have done much to achieve the objective stated in the first constitution of the Southern Conference, an objective common to all—"to bring together in one group the forces fighting tuberculosis whose problems, for geographical or other reasons, are more or less similar and at the same time sufficiently different from the country at large to justify the grouping."

AMONG THE FOUNDERS . . . .

David R. Lyman, M.D.

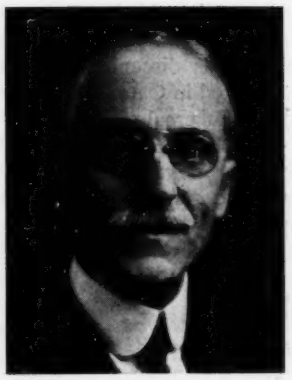
Sigard A. Knopf, M.D.



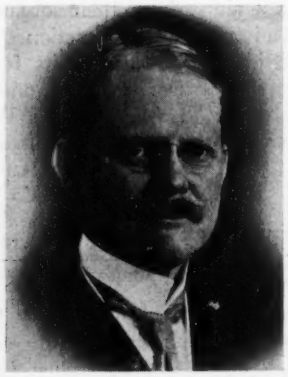
Mazyck P. Ravenel, M.D.

Vincent Y. Bowditch, M.D.

Lawrence F. Flick, M.D.

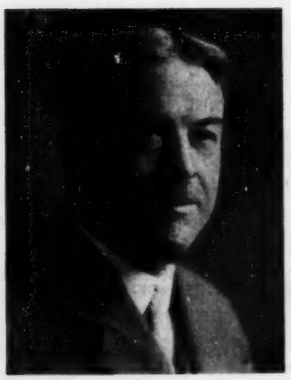


Edward R. Baldwin, M.D.

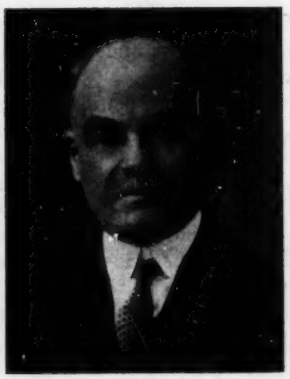


Guy Hinsdale, M.D.

George M. Kober, M.D.



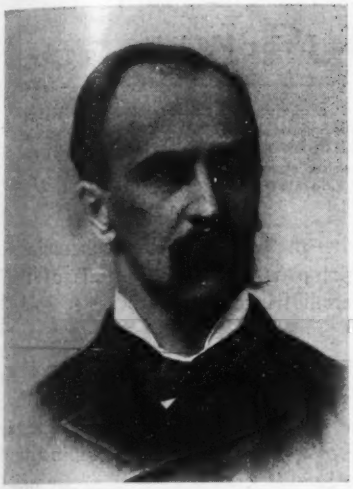
Jabez H. Elliott, M.D.



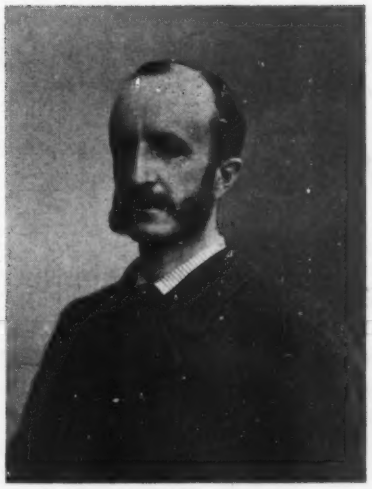
Howard S. Anders, M.D.

Charles O. Probst, M.D.

John S. Fulton, M.D.



William Osler, M.D.
Vice President
1904-'05



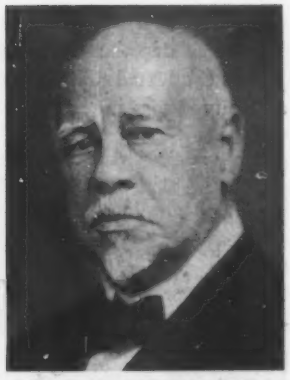
Edward L. Trudeau, M.D.
President
1904-'05

Hermann M. Biggs, M.D.,
Vice President
1904-'05

James A. Miller, M.D.

Henry B. Jacobs, M.D.,
Secretary
1904-'20

Brig. Gen. George M. Sternberg, M.D., Treasurer
1904-'12



William H. Welch, M.D.

THE men pictured on these pages are among the 195 men and women who founded the National Tuberculosis Association in 1904 and who are being honored on this 50th anniversary. The complete list of founders may be found on Page 112 of this issue.

These were the pioneers, the men of vision, who stubbornly refused to accept the then prevailing attitude that tuberculosis was hopeless. They are the ones who believed that the scattered attempts to combat the disease then being made in various parts of the country could and must be brought together into one coordinated effort.

They included in their number such men as Dr. Edward Livingston Trudeau who in 1884 had opened a sanatorium for tuberculosis patients at Saranac Lake, N.Y., and who was to become the Association's first president; Dr. Lawrence F. Flick of Philadelphia who in 1892 had organized the Pennsylvania Society for the Prevention of Tuberculosis; Dr. Vincent Y. Bowditch in Massachusetts who was proving that tuberculosis could be treated successfully at sea level; Dr. William Osler and Dr. William H. Welch who were teaching medical students at Johns Hopkins that tuberculosis was communicable, and Dr. Hermann M. Biggs and Dr. Henry P. Loomis who had attempted popular education on tuberculosis in 1889 and were seeking to make tuberculosis a preventable disease in New York City.

These and the others like them from every section of the country were the prototypes of the thousands of men and women who during the past 50 years have given disinterested service to the antituberculosis fight in community, state, and nation.

New Patterns Established to Meet Changing Problems and Programs, but Basic Philosophy Remains Constant in

Training TB Workers

by Irving Mushlin

Mr. Mushlin is Director of the National Tuberculosis Association Division of Personnel and Training. He has been a member of the Division staff since 1950.

Then and now; yesterday and today —how long has it been since "then" was "now"? Was it really 38 years ago that Philip P. Jacobs, then assistant secretary of the National Association for the Study and Prevention of Tuberculosis accepted applications for the Association's first training Institute? To some it seems like only yesterday—to others it is long ago!

The first formal training course was held June 1-21, 1916, at the New York School of Philanthropy, then directed by Edward T. Devine, one of the founders of the Association. Mr. Jacobs conducted that Institute, as well as many others in the years to follow.

There were 20 students in attendance. They were truly students, too, since the early Institutes were comparable to college seminars and offered classroom instruction to people in the tuberculosis field.

Objectives of the Institute were "to train workers to become secretaries or to assume other executive positions in the anti-tuberculosis field; to give all who attend a broad outlook on the tuberculosis field in its national, state, and local aspects, and to aid in the standardization of methods of anti-tuberculosis work."

The curriculum for the course was broken down into three broad areas of study—methods of antituberculosis work; program, and relations of the tuberculosis campaign to other social and public health movements.

Each broad area was in turn broken into special phases; for example, the first included the educational aspects of work, organization, nursing, institutional work, cooperation with city officials, and the conduct of conferences and meetings. "Programs of antituberculosis work" covered those for a large city, for a state, and for counties and smaller communities.

The first group of tuberculosis workers to be trained by the NTA met in June 1916 at the New York School of Philanthropy, now the New York School of Social Work of Columbia University. Philip P. Jacobs, Ph.D., (upper right), then assistant secretary of the Association, planned and directed their studies. Among the 11 of the original group seen above may be found Mrs. Saidie Orr Dunbar (back row center), who was executive secretary of the Oregon Tuberculosis and Health Association for 36 years before her retirement in 1951, and Miss Rosa Lowe (second row center), for many years executive secretary of the Atlanta (Ga.) Tuberculosis Association.

Past and Future

As the years rolled by people and programs changed. The tuberculosis association, itself, changed and became known by its present name, the National Tuberculosis Association. When Mr. Jacobs died in 1940, an era ended and a new pattern began to grow from the firm foundation he had established. The faces and the methods changed, but the basic philosophy has been maintained to meet the needs of the field so that workers may, through the use of definite skills, offer greater service to their communities.

Today there are many parts to the training program, the methods are less formal and the knowledge and experience of the individual are more and more a part of the training experience than ever before. The NTA training program of today is different from that of yesterday; and so are the people and the problems of the field. The training program will continue to maintain its flexibility so that the philosophy of the past may be blended with the requirements of the future to provide the most useful working knowledge for the growing army of professional career workers in the tuberculosis field.

General Public Health

Must Strengthen and Extend Gains of Past and Present Efforts To Promote and Protect Public Health

by
Haven
Emerson, M.D.

Dr. Emerson is Professor Emeritus of Public Health Practice, School of Public Health, Columbia University, New York City, and Honorary Chairman of the National Advisory Committee on Local Health Units.

Only by the swift sweep of discovery, the rapid rousing of imagination, and the keen desire to put knowledge to work could the changes of these past 50 years have come and gone, each one faster than the last. Hardly did one revolution in information become established in action before another of equal importance appeared until we found that we were passing through three primary eras of public health accomplishment.

Public Housekeeping

First came the period of elementary public housekeeping. This encompassed the urge for a higher level of decency and cleanliness and the willingness to submit to sanitary authority and create boards and departments of health with powers of enforcement, and the right of entry to search for disease without court warrant. We became conscious of spitting in public conveyances, of filth indoors and out, and of the hazards of water, and of milk of dirty origin and careless handling.

We were fired by the new potency of diphtheria antitoxin to save lives, as well as by constant zeal for smallpox vaccination. We believed in the three new truths about tuberculosis, its communicability, its curability, its preventability, to the point of calling on the power of consolidated public opinion to support compulsory reporting of "consumption" in all its forms.

To the physician and patient we offered the new knowledge, the accurate and prompt resources of the laboratory, the protection of bacteriology against clinical error. We recognized that the authority of sanitary codes was but a weak power for good unless the humble people knew in one-syllable words the causes of sickness and the household means of its prevention. From these understandings came the voluntary effort, both local and nationwide, to aid, to lead, to show the way, and to spur on the public agencies of health.

Enlisting Education

Ever so gradually there followed the second phase, the enlistment of the spoken and written word, the war of education against ignorance, superstition, and outworn tradition. From the little beginnings of 1912 in the New York City Department of Health came the blossoming of education in human biology. The lessons in the laws of living matter took the place of summonses to the court and other enforcements as means of persuading people to follow science and the truths of medical knowledge.

Efforts were made to check the increasing habit of self-medication with cathartics, tonics, cough medicines, sedatives, and pain killers as people were faced with ever more deceptively plausible advertisements of drugs, cosmetics, "health" foods, and proprietary nostrums. For example, it was forbidden to claim drug "cures" for tuberculosis, syphilis, and cancer. Physicians, pharmacists, and the press cooperated to make education in health public property and to safeguard the gullible against fraud. Even the harmful effects of alcohol were honestly described and the reasons for moderation were explained in health bulletins and arguments for abstinence were spread abroad. But these somewhat negative or corrective teachings very largely reached people uninterested or ignorant, complacent people already convinced that the ways of their grandparents were good enough for them.

The really great, the inspiring, the constructive, and positive service of health teaching which reached the most eager, teachable, and influential fraction of the community was that done at the baby stations by doctors and nurses. Visiting and public health nurses taught, too, when they called at homes of the new born, the toddlers, the school children, and expectant mothers. No one is more accessible to the best, the latest, the practical rules for health than expectant and nursing mothers and mothers of growing children.

This education in motherhood, in the feeding, clothing, cleanliness, order, and system of life for the oncoming generation is the most notable of the health foundations of the past half century.

Index of Accomplishment

Measured by an index of accomplishment it is by three social criteria that we can claim results of enduring worth from the lessons taught the family. Instead of death before one year of age for one baby in every five born alive, the wastage is now but one in 40. Where commonly 60 mothers for every 10,000 live births were lost by neglect, and ignorance, and poor obstetrical care during pregnancy and child bearing, but six are lost today. Where at one time almost all children in New York City had been infected by the tubercle bacillus before they finished grammar school, now only about 10 per cent are found to be reactors to the tuberculin test by 12 years of age.

Not only had advancing bacteriology, pediatrics, and obstetrics saved hundreds of thousands of child lives, but the teaching of the lessons of health, the practicing of sanitation by communities, shops, industries, and camps put health campaigns and slogans on the front pages of daily papers and systematic health teaching

in every grade of the public, parochial, and private schools.

This educated influence of self-preservation reached the legislatures and the courts. Pasteurized milk won its battle against corn-tassel fogies and the cultists who believed that the dirt in milk was of divine origin and not to be filtered or cooked out.

Preventive Medicine

But it was increasingly apparent that all the municipal cleanliness, the chlorination of water supplies, pasteurization of milk, removal of sewage from bathing beaches and swimming pools, and the widespread campaigns of education in a multitude of areas of preventable disease, combined with better health departments and rising standards of competence in medical and surgical skills, were failing to check the prevalence of many fatal or chronic and disabling conditions that killed people as reliably and in far greater numbers than had the acute infections of infancy and youth.

Only in 1922 did the third era of our half century make its formal and very quiet but convinced beginning. The American Medical Association at its St. Louis meeting that year declared that further progress in using the advances in diagnostic skills and therapeutic resources demanded a closer and more consistent use of periodic medical examinations of apparently healthy people over the entire life span. This, stated the AMA, would detect early evidence of disease or abnormal functions of body and mind at a stage of their development when the most could be done to prevent manifest and disabling sicknesses or so modify them that life would be safeguarded and death postponed.

In other words, health was declared to be of personal as well as of social or public concern. Cooperation between the health client, or well patient, and his medical adviser of choice must be continuous over the years from conception to dissolution and be sufficiently intimate and individual to take advantage of all the skills and techniques of medicine.

This third era in no way sets aside or disregards environmental sanitation or public health education, but

The cause of public health was advanced when legislation and public opinion restricted the activities of unscrupulous quacks who had been preying on the public, selling nostrums, such as the "consumption cures" pictured above.

encourages their integration with the most constructive application of the health examination. This formidable tool of preventive medicine has been admirably developed by obstetricians, pediatricians, and those who would systematize and make health supervision universal.

So we go about refining methods of distinguishing between vigorous, sturdy, reliable health of body and mind from partial, intermittent health and from evidences of deviation from the normal at each age period. We feel mortified nowadays, if among the families relying upon their trusted physicians, there should occur undetected diabetes, cancer, tuberculosis, circulatory, mental and emotional disorders, or even obesity.

Our Privilege To Predict

Yes! It is our privilege to guess and even to calculate, and perhaps prophesy about the future, the tomorrow of public health, and if we are even moderately canny we shall ponder over the history of at least the last hundred years, since 1848, let us say, when Edwin Chadwick pressured the British into a beginning of public health control of living conditions in their industrial cities and since 1858, when his counterpart, Lemuel Shattuck, shamed the Commonwealth of Massachusetts into setting up a State Board of Health. We must study and consider causes and effects in the United States, since the Metropolitan Board of Health of New York was authorized by the legislature in 1865, and we must be sensitive to contemporary popular and professional demands for comprehensive use of both private initiative and official—local, state and federal—organization of service for the promotion and protection of health.

The next 50 years will, I believe, be characterized in our country by a firm maintenance of all the gains made since 1900 in disease prevention through sanitation, health education, and the medical supervision of apparently healthy people.

Of much greater importance and with an almost infinite possibility for human health for the future, we shall determine to protect and develop the spirit and mind of man, teach the causes and results of his emotions, guide his behavior, and do our best to free him from the present threat of mounting prevalence of personality catastrophies due to preventable forms of mental ill health of an interpersonal character.

Health Education

Future Programs Will Be Built on the Scientific Foundations Now in the Process of Development

by C. Mayhew Derryberry, PhD

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Health education, as a well developed specialty of public health practice, is a fairly recent development. Yet, in all public health movements, health education of one kind or another has played an important role.

Public health education had its beginnings in the institution of sanitary safeguards. Although not suited to today's problems, the health education carried out by health personnel achieved these specific goals. The health workers were not so much concerned with changes in the individual behavior of the average citizen as they were in finding a short-cut to social action. With tacit consent from the people in general, the gatekeepers of public policy could initiate the desired reforms.

Early Methods

The early methods were comparatively simple, though they were certainly forward looking and ingenious. A famous example is the way in which Lemuel Shattuck made use of a community health survey in 1850. Another is the strong move of the National Tuberculosis Association in uniting lay and professional forces in 1904. Generally speaking, the early methods were those of the propagandist, the moralizer, the campaigner, and the salesman. They were well suited to the objectives of their time. They brought about such innovations as health laws, health departments, sanitary controls, school health instruction, and tuberculosis hospitals.

As these early projects bore fruit, there was less and less in the environment to menace public health. Further improvement in the health of the people was overwhelmingly dependent upon each individual's own personal health habits and practices. The need to change people's health behavior became increasingly apparent between the two World Wars. Valiant efforts were made to popularize nutrition, personal hygiene, and periodic visits to doctor and dentist. By and large, the methods tried were the old ones—directed this time to a larger audience. The fundamental idea was to spread information through showmanship and through every available method of mass communication—pamphlets, posters, and exhibits.

The program builders operated on the assumption that people would act if they had the facts. They patterned their programs after those of the advertiser, reasoning that the methods used to sell other products would "sell" health. This analogous reasoning overlooked the fact that the behavior necessary to maintain health is not the simple behavior of making a purchase.

Measuring Results

Very little effort was devoted to measuring the outcome of such extensive informational endeavors. Results were usually taken for granted. It seemed logical, for example, that mass education must have an effect on the tuberculosis case rate. Therefore, when the rate went down, and likewise when it went up, the result was attributed either to health education or the lack of it.

Gradually leaders in health education began to challenge the assumption that the goals of health education are similar to those of the advertiser. This challenge began to find expression in program changes approximately 15 years ago with the threat of World War II. There were great social pressures towards defense and preparedness. Both industrial activity and scientific research were stepped up. In this climate, health education had a vital reason to be as effective as possible. It searched out the pertinent findings of the other scientific fields concerned with human behavior and learning. These findings, chiefly from research in psychology and education, were originally put to use in just a few communities. Within 15 years they have wrought marked changes in health education methods, principles, and philosophy throughout the nation.

New Emphasis

The concern of the new program emphasis is not with how many pamphlets are distributed or how many movies are shown. It is with how much learning takes place and how much constructive action ensues. The old-time zeal merely to *reach* more people has been supplanted by scientific effort to *help* more people *learn*. This emphasis on the learner, the factors that influence his behavior, and the way in which he can be helped to realize his health goals is perhaps the distinguishing characteristic of the present era in community health education.

The general methods growing out of this emphasis are rapidly being adopted. They are the adult and democratic methods of experiential problem-solving. They necessitate finding out any interests the people already have in public health problems and starting with those interests. They depend upon the people coming together to discuss the problems democratically and to arrive at group solutions that are custom built to suit the people affected. They involve sharing of responsibility for study, planning, and action among all concerned, lay citizens and professionals. They bring in school systems, industries, and all manner of public and private organizations. They are counted successful so often as the people bring about effective action to handle a community problem. These are not easy methods; in fact, it has been found that the full-time services of a profession-

ally trained health educator is often necessary to help the people carry through to the solution.

In dynamic undertakings of this kind, each one unique in itself, the educational materials are also frequently tailor-made. Many aids are nowadays produced locally by citizens' groups, working with local tuberculosis associations or other health agencies. Thus, the very tools are outgrowths of the program itself and their preparation is a part of the educational experience.

With these changes in focus from the educator to the learner have come two developments of even greater promise and importance. The first of these is a serious concern with critical self-analysis or evaluation. Although the need for more effective programs has been repeatedly expressed by health education workers, only recently have detailed measurement of program success or failure, in terms of the effect on the learner, been attempted. The NTA has made valuable contributions to such evaluation efforts. Some of the other activities in the field have included measurement of the educational aspects of a multiple screening program, the educational effect of a mass X-ray survey, and in one locality, periodic measurements of a variety of educational campaigns.

Pretesting Procedures, Materials

As a corollary of the concern about evaluating the effectiveness of a given program, there has developed the idea of *pretesting* procedures and educational materials before they are put into use in a program. Essentially, the technique of pretesting requires defining the conditions that must be met before it is possible for an educational method or piece of material to be effective, and then testing to see if these conditions are met. For example, for a piece of educational material to be effective with people, they must be exposed to it, must be able to understand the message, must comprehend the meaning of the message in terms of their own behavior, and must be motivated to learn the information and be willing to act in the way indicated.

Pretesting will help the program planner in more sharply defining his goals and in being more selective or inventive in the methods and materials used. The significance of the contribution that pretesting can make in improving health education programs is only beginning to be realized. In the future, it is anticipated that program planners will carefully pretest their methods and materials before embarking on large-scale programs.

The Modern Health Crusade, sponsored by the tuberculosis associations in the Twenties to stimulate interest in health education for American school children, gave way in the Thirties to programs to educate teachers for their role as health educators.

Research Programs

A second recent development that is only in the initial stages, but has great potentialities for the future of health education, is a beginning interest among some social scientists in conducting research in the public health area and particularly research that may be applied in health education.

The problems on which research findings are needed are many. They include such questions as: Why do people react the way they do with respect to health matters? What are the forces that stimulate constructive health behavior? What forces serve as barriers to positive health behavior change? What is the effect of group approval and disapproval on health behavior? How can we ascertain the effective channels of communication in a community? How can one learn the cultural traditions and taboos of a community group, and are there general principles to use when traditional behavior patterns interfere with health maintenance? What types of appeals will be most effective in stimulating a concern about important health problems?

Today's Problems

These and many other problems are crying for solution. Some initial studies in this broad area of social science as applied in public health include investigations into: Why do patients delay in seeking early medical advice for cancer? Why do some people persistently neglect to take advantage of a free chest X-ray when it is offered? What are some of the community factors that assure the success of a community dental demonstration? The studies that have been made on such problems are relatively few, but even so, it is an encouraging trend to see social scientists turning their attention to studies of individual and community health.

All of these studies aim at a diagnosis of the forces, individual and group, that are both facilitating and inhibiting the practical application of findings from the health sciences in the daily lives of people. It is many such studies as these that will make it possible for health education programs to be built on a scientific foundation.

This, then, is the outlook for the future—public health workers and social scientists complementing one another in the task of helping people enjoy better health through the practical use of findings from the biological and social sciences. When this successful relationship is accomplished, then we may expect the health education phase of any public health program to be as scientifically planned as the epidemiological portion. Likewise, the extent to which the people respond to an educational effort will be predicted with as great assurance as the degree of immunity from any immunological procedure is foretold by the immunologist.

This is a dream of the future, but one that seems well within the realm of probability.

TB Case Finding

Greater Productivity, Greater Economy the Goal as Search for Unknown Cases Focuses on the Future

by
C.M.
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For 1,600 years, the classical symptoms of tuberculosis—fever, night sweats, chest pain, blood spitting, cough, expectoration, and weight loss—formed the basis for a diagnosis of pulmonary tuberculosis. Early physicians insisted that all of these must be present before such a diagnosis could be made. The few who did postmortem examinations discovered that many dying from pulmonary tuberculosis did not have classical manifestations. Dependable antemortem procedures for detecting early tuberculosis were unavailable.

Early Work

In 1761, Auenbrugger discovered the art of percussion, a first step toward the earlier diagnosis of tuberculosis. In 1816, Laennec introduced the use of the stethoscope. With these new techniques of examination, with a careful history of the onset of illness, and with his wide knowledge of the pathology of tuberculosis, Laennec acquired a justifiably high reputation for his diagnostic skill. Thus, case finding in the past depended entirely on clinical skill in physical diagnosis.

The discovery of the tubercle bacillus by Koch in 1882 and the X-ray by Roentgen in 1896 marked the beginning of the period of case finding by laboratory methods. Tuberculin, the valuable adjunct, was added shortly thereafter through the work of Koch.

X-ray of the chest was accepted by a few tuberculosis clinicians as a valuable aid in the early diagnosis of tuberculosis, but the development of the modern X-ray tube and cellulose films was many years off. Williams, as early as 1897, using glass plates, demonstrated the value of the X-ray in the diagnosis of tuberculosis and he campaigned to convince physicians of the value of this momentous discovery, but the poor quality of image caused many physicians to consider X-ray of little value in early diagnosis. There followed a long period of radiological development and it was finally established to the satisfaction of most physicians that pulmonary tuberculosis could be demonstrated before the most skilled physician could detect evidence of it by physical examination. It was appreciated that if tuberculosis could be discovered early the chances for recovery were greatly enhanced.

Potential Value Seen

The potential value of mass X-ray surveys was acknowledged by physicians of broad vision several years before technical advances permitted the realization of their early dreams. The Framingham demonstration in 1918 was a milestone in the X-ray diagnosis of tuberculosis. For the first time, an entire community was examined to detect the prevalence of tuberculosis. The combined use of clinical, laboratory, and X-ray procedures set a pattern for future years.

After World War I, the practice of X-ray examinations spread rapidly over the country, but the equipment remained cumbersome, techniques unreliable and time consuming, and the cost prohibitive for mass application. With the development of paper film and special apparatus which enabled the screening of four persons per minute, the practicability of the use of X-ray in the examination of large groups of people was apparent.

At the time of mobilization for World War II, photofluorography, a principle which was under investigation by Professor Manoel de Abreu of Brazil, had been developed and 14 million persons inducted into the Armed Services were examined by 4" x 5" and 35 mm. transparent films. The machines were not automatic, but they produced X-ray photographs faster and at less cost than any procedure

The primitive machine seen above was devised by American scientists soon after Roentgen's discovery of the X-ray and was the forerunner of today's equipment.

previously available. During the same period, the U.S. Public Health Service was experimenting with automatic 35 mm. roll film cameras. The image was small and difficult to interpret, but the device formed the basis for present methods of case finding by means of mass chest X-ray surveys. At the end of the war when the 70 mm. roll film camera developed by the Army Air Forces for aerial mapping became available, it rapidly replaced the 35 mm. camera and with this a generally acceptable device for rapid X-ray screening was available.

In the past seven years fast tempo mass X-ray surveys have been of incalculable value in detecting tuberculosis at the stage when treatment is most successful. In 1949 alone, 19 million people in the United States had chest X-ray examinations and a vast number of cases of the disease were discovered. An expansion of hospital facilities followed. Developments in the treatment of tuberculosis kept pace with the advances in case-finding techniques. These combined factors are producing rapidly declining mortality rates. However, it must be emphasized that reduction in morbidity rates have not kept pace with reduction in mortality rates. For example, in Florida, in 1953, mortality from tuberculosis decreased 41 per cent in one year, while the morbidity rate decreased only seven per cent. Here, as elsewhere in this country, community X-ray surveys are still revealing cases in substantial numbers and in most sections of the country these case-finding procedures are still indicated.

Must Look Ahead

We must anticipate the time when chest X-ray surveys of the general population will no longer be a highly productive public health procedure. New approaches, designed to yield with available resources the greatest amount of undiscovered tuberculosis, will need to be considered. There is still an important reservoir of unknown disease in this country and effective case finding is urgently required.

In the past, most tuberculosis was found in people living under substandard conditions; today the living standards in this country have been raised and in large part, poverty, malnutrition, and illiteracy are rapidly declining. Barring unforeseen events, we may expect further socio-economic improvements. In Florida, for example, deaths among Negroes are decreasing rapidly. If current trends continue, the rates for Negroes will be as low as those for whites by 1959. In 1953, our Negro mortality was approximately the same as that for whites in 1947.

Future Search for Cases

In the future, therefore, we must turn our case-finding efforts to the known sources of infection, the "localized epidemics of tuberculosis." Where, then, may we expect to find this reservoir of new cases, now and in the future?

1. Tuberculosis has been called a family epidemic; the follow-up of family contacts will continue to remain our most fruitful source for case finding.

2. Routine X-ray examination of all admissions to hospitals, particularly to our charity hospitals and clinics, will continue to be a valuable source for new cases. Here are individuals in the economic distress group. The proportion of suspicious films is ten times as high in this group as in general population surveys.

3. Routine chest X-rays on admission to our mental and penal institutions and jails are very important. One infectious case in a "skid row bum" or a prostitute constitutes a greater potential problem than 10 cooperative patients.

4. The offices of our private physicians are a most important source of new cases. Where we find the sick, we find tuberculosis. Since 30 per cent of the population consults a physician in his office each year, an ideal segment of the population is readily available for screening. A physician in California found that 2.8 per cent of 250 new patients had active tuberculosis, over 20 times the current rate for general population surveys in the country as a whole.

5. The stronghold of tuberculosis will be found in the older age group, particularly those over 65. This fact is only now beginning to be duly recognized. Many infectious cases at this age may present little if any notable clinical disturbance. Chronic fibroid cases among older persons probably represent 80 per cent of the pathology found in surveys. These individuals were adolescents or young adults when tuberculosis was almost a universal infection. In 1953, 400,000 survey films taken in Florida were analyzed. The rate for newly discovered cases for persons 65 and over was 372 per 100,000 population examined as compared with 17 per 100,000 for persons aged 15-24. In 1953, 39 per cent of the population aged 15-24 were examined, whereas only 16 per cent of those aged 65 and over were X-rayed. Obviously, larger numbers of older persons should be examined.

6. Surveys of high school and college students, though easily accomplished, have been relatively unproductive in case finding. There is an educational value to these surveys, but they should be limited to high school seniors. Tuberculin testing of school children and X-ray examination of positive reactors would be even better.

7. In the future tuberculin tests probably will have a prominent place in case finding. This test is a sensitive epidemiological barometer, especially when used in young children with limited adult contact. When the infection rate in the population decreases to a sufficiently low degree, as it has already done in some sections of the midwest, tuberculin-testing surveys of the general school and adult population may eventually be our most economical and productive case-finding technique.

Some future antimicrobial drug or vaccine may completely alter this picture, but we dare not wait for this. We are still amply justified in urging that our present intensive case-finding procedures must continue. Future strategy will not be to see how many millions of X-rays may be taken, but rather to concentrate attention on the important foci of exposures where most of the new cases of tuberculosis will be found.

Diagnosis and Treatment

Methods and Materials Have Kept Pace With Changing World and Even Greater Advances Are Anticipated

by Ezra Bridge, M.D.

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When the National Tuberculosis Association was organized in 1904 women wore high button shoes and bustles. Their long trailing skirts swept unhygienic dust into the air. Men twirled handle-bar moustaches, wore tight trousers, and black derbies. In those days, because it happened in real life, novelists described their heroines as languishing in pale delicacy with red blooms on their cheeks, even more romantic because of their half-hidden hacking coughs and because of the aura of eternity about them. It was a time when people ran easily into the ubiquitous tubercle bacillus, much to the detriment of their health and often to the shortening of their lives.

The Days of "Galloping Consumption"

Those were the days when acute phthisis was known as "galloping consumption" and little could be done about it. Treatment depended on rest, exercise in the open air and, if one could afford it, a trip to Arizona and a short life among the sand dunes. Sometimes people went to the mountains instead of to the desert to "cure." The difference in locale was slight. A diet well laced with whiskey was sometimes suggested, or daily dozens of raw eggs washed down with copious quantities of unpasteurized milk from tuberculin-positive cows. For most people a bed in one of the nation's 90-odd sanatoriums was out of the question for economic reasons, even if a bed were vacant.

In 1904 there were no vaccines. Major chest surgery was undeveloped. There were no so-called "wonder drugs," no antibiotics. Most important of all, tuberculosis was not looked upon generally as a problem in public health and there existed no national organization devoted to the control and eventual eradication of the disease. In 1904, one half century ago, that organization was to come into being. Three years later, in 1907, we were to transplant from Denmark the idea of the Christmas Seal and this was to grow and spread, supplying the financial sustenance upon which the NTA was to grow strong and healthy until it became a mighty force. One year after the founding of the NTA, in 1905, the American Sanatorium Association, now the American Trudeau Society, medical section of the NTA, was established, soon followed by a second potent arm, now the National Conference of Tuberculosis Workers.

Known for Teamwork

From the beginning this National Association, born back in 1904 as the National Society for the Study and Prevention of Tuberculosis, has been known for team work, wisely planned and consistantly adhered to. It has been directed by physicians, scientists, educators, authorities in the field of public health, public relations experts, and by hosts of other devoted people from half a hundred other professions and walks of life. In the half century since the inception of the NTA many changes have taken place in all phases of the American scene. The hard hat and the beard of the American male have given way to the snap brim and to the wonder-working safety razor. Women have abandoned the too tight corset and skirts no longer whirl clouds of germ-laden dust into the air. Boys and girls alike wear dungarees. Two world wars have become history and in their wake we have television, jet bombers, transistors, and atomic weapons of inestimable power. The world has moved and medicine and public health have moved along with it.

In the half century since 1904 tremendous changes have taken place in tuberculosis, in the national and international attitude to the disease, in the weapons with which we fight against it, in the attitude of the individual towards it.

Today the "means test" has been abolished in many states, and we are working towards its abolition in all as enlightenment spreads. Governmental responsibility for control of the disease has become a reality as the message of the NTA, that TB is a public health matter and not only the concern of a stricken individual and of his family, is almost universally recognized. Child health education, as well as the education of adults, through both new and old media of communication, is universally conceded. We reach people via lectures and comic books. We use movies, broadcasts and telecasts. Our methods of health education are as modern as our surgical techniques.

During the past 50 years we have watched treatment methods come and go. We have seen, for example, the popularity of pneumothorax and phrenic interruption rise and fall, fitting into a proper place in our antituberculosis arsenal. Today enthusiasm for antibiotics and for chemicals with bacteriostatic power is rampant.

The Advantages of Today

In 1954, thanks to a happy combination of factors, including new drugs, improvements in surgical techniques and in anesthesia, in post-operational care, and in care during the operation itself, surgery is safer than ever before and so the surgeon is bolder and his results surer. We have learned how to use specific antituberculosis drugs in a variety of ways, either alone or in effective combinations. An example of

the latter is the use of streptomycin and para-aminosalicylic acid (PAS) and isoniazid in tuberculous meningitis. As always, the medical and surgical specialist in tuberculosis is learning, learning by experience and by case studies what are the advantages, disadvantages, and limitations of such new drugs as isoniazid, learning the advantages, disadvantages and limitations of thoracoplasty, lobectomy, resection, and other operating room techniques. One thing is certain, methods change for better methods. Nothing is static in medicine.

Today health departments practice case reporting, keep case registers, insist that dairy herds be free of tuberculosis, and require pasteurization of milk. They operate diagnostic and therapy clinics and employ nurses to follow up cases. They conduct chest X-rays surveys of supposedly healthy people and cooperate in building tuberculosis hospitals. Tuberculosis in 1954 is very much a matter of public health.

Early Diagnosis Rare

Consider the doctor 50 years ago. When a patient with "consumption" came to him the physician had to rely for a correct diagnosis almost entirely on clinical symptoms. The symptoms were those known to Hippocrates and the very word "phthisis," a wasting away, was used by Hippocrates himself to describe the disease. Very often the patient had wasted valuable time buying various nostrums absolutely guaranteed to cure scrofula, consumption and a dozen other diseases all at once. The doctor thumped the chest, took the patient's temperature, noted his general condition and, perhaps, took a sample of the patient's sputum and, after going through the usual bacteriological technique for staining acid-fast organisms, he might pack his patient off to the mountains or the desert to "cure." That is, if the classic symptoms of pain in the chest, night sweats, fever, and the others, were present. In rare cases an X-ray, using cumbersome apparatus, might be taken. A tuberculin test might be given. Altogether, a rather imposing, if sometimes unreliable, list of diagnostic tools were available to the physician. One thing was lacking, and the doctor of 1904 knew that fact all too well. He first saw his patient when tuberculosis was well advanced.

"Little Red," at Saranac Lake, N.Y., is famous as the first tuberculosis hospital in the U.S.A.

The physician of 1904 knew, as does the physician of 1954, that early diagnosis of tuberculosis, diagnosis even before the appearance of the first clinical hint, was of the utmost importance if the patient were to have a real chance. Today we have the means to do just that, not only for the person who visits his doctor for a check-up but for the general public as well. The wedding of engineering to medicine has given us light and portable X-ray equipment with which, using inexpensive film, we can survey vast numbers of people at a time. Mass X-ray surveys are a commonplace, often with state and Federal health departments working in harmony with tuberculosis associations. Today, and this was unheard of in 1904, sometimes the physician first learns of a case of suspected tuberculosis when he receives notification from the health department in his area. And the area may be in a large city, a populous rural area, an Indian reservation or an isolated community in the far reaches of nowhere. This is 1954, exactly a half century since the NTA was founded, an exciting half century, fifty years of progress, of accomplishment, of a certain satisfaction. However, the job is not yet done. So we look to the future and ask, "What comes next?"

There will be changes in the control of tuberculosis. Just as with smallpox and typhoid fever, the disease will still be around. The mortality will drop probably to not more than ten per 100,000. Public health controls will be drawn tighter. Fundamental knowledge will be more widespread. The mysteries of immunity, of susceptibility, of recovery will be largely dispelled as time goes on. Most of the gaps in the knowledge of tuberculosis will be closed. As the work of education continues, the general practitioner, the family doctor, will take a renewed interest in the disease, a consummation devoutly to be wished because in knowledge and in interest lies our greatest weapon against tuberculosis.

In the immediate and predictable future it seems that bed rest still will be the backbone of our therapy, bed rest with considerable reinforcement from new and more potent drugs and new surgical techniques. Vaccination will be used in restricted areas.

Education the Moving Force

The moving force in all of this will be education. Present techniques will be more powerful and further reaching. Closer attention will be given to the patient. He will be helped more successfully to adjust psychologically, medically, economically, and socially, to himself and to his environment. The techniques of taking care of him, in the hospital and out, will be improved to the end that time and money invested will give even greater rewards. His family will be watched over by wise, community service because a patient's mind must be at ease.

As a result of these many improvements in our own country, increased demands from other countries will continue to arise for advice in dealing with their TB problems. Wise physicians, skilled administrators, and trained technicians will volunteer their services in even larger numbers than now.

Some time in the future a laboratory may develop a vaccine, a specific drug, perhaps an antibiotic, to kill tuberculosis in a twinkling. Perhaps! This is not beyond the realm of possibility, but that day is still part of the future.

Tuberculosis Nursing

Increased Responsibilities Foreseen for Nursing as Methods Of Case Finding and Treatment Continue Advance

by Fannie W. Eshleman, R.N.

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As early as 1887 the employment of nurses to visit the homes of patients who had been examined in a tuberculosis dispensary was advocated in the famous "Edinburgh Scheme" for the control of tuberculosis. The objectives were to urge the tuberculosis patient to enter an institution and to persuade members of the patient's family to go to the dispensary. Since it was recognized that tuberculosis was closely associated with poverty and overcrowding, inquiries were made concerning economic and social conditions and whenever indicated families were advised to obtain assistance from charitable organizations in the district. Through this plan, in which the dispensary served as the center for tuberculosis activities in the community, nursing began to provide systematic home supervision to patients attending a tuberculosis clinic.

Early Efforts

Some years later an antituberculosis movement similar to the "Edinburgh Scheme" was proposed by Dr. Hermann S. Biggs for New York City. His plan, too, considered nursing and health supervision as a fundamental part of a successful plan for the control of tuberculosis. The Biggs plan was adopted by the New York City Health Department in 1893 and at the beginning of the present century nursing service was part of tuberculosis control programs in numerous communities throughout the country.

During the next 25 years most nursing activities were devoted to assisting patients in securing treatment, with emphasis upon the benefits to be obtained from fresh air, good food, and rest. When institutional care was not available efforts were made to provide suitable treatment in the home; financial assistance was obtained from social agencies in the community. At first attempts to have household contacts examined were not too successful, but case-finding results improved as health teaching activities increased and as advancement was made in X-ray techniques and bacteriological methods.

Emphasis on Preventing Spread

With improvement of diagnostic facilities the second quarter century saw numerous studies being undertaken in the epidemiology of tuberculosis. These studies showed that tuberculosis develops not infrequently as a result of exposure to infection outside the home but that a large majority of new patients acquire their disease as a result of exposure to a source within the family group. The application of this scientific information to the nursing of the tuberculosis patient resulted in the family's being recognized as the unit for tuberculosis control, with each member receiving personal care but in relation to the needs of the group.

Nursing as a family health service emphasized the need for proper care for the infectious tuberculosis patient and the patient's immediate hospitalization to prevent further infection of family contacts. Prompt isolation of the infectious patient was one of the principles that Biggs and Flick many years earlier had maintained was an essential factor in the control of tuberculosis. They urged examination of other members of the family in an effort to discover instances of undiagnosed tuberculosis that might have been a source for the patient's disease or a result of exposure to it.

In recent years case-finding activities that include mass X-ray surveys for large segments of the population have resulted in the discovery of numerous additional unrecognized infectious cases. Dr. Herman E. Hilleboe, Health Commissioner, New York State Department of Health, reports the startling fact that 87 per cent of the cases detected by mass survey in New York State were previously unknown. In other words, they are newly diagnosed patients who require nursing services in an effort to locate the source of their disease.

As facilities for hospital treatment increased and the communicable character of tuberculosis was emphasized, a variety of procedures for preventing the spread of the disease were developed. One of the measures which received wide recognition and which brought about radical changes in nursing service in some tuberculosis hospitals was the practice of aseptic technique. Although the measures used in this procedure may promote dependence of personnel on mechanical means for protection against the tubercle bacillus, nevertheless the practice has resulted in an improved standard of nursing. When aseptic technique is combined with instruction to patients by nurses who are well informed about tuberculosis and the modern methods employed in its control, it plays an important role in the management of tuberculosis patients.

Supervision and Education

Hospital treatment of the patient has been supplemented by health supervision and education of the family at home. Social assistance programs have furnished financial support to families when indicated, and experience has shown that the patient's morale and faithfulness in taking treatment depends in large part upon the help the family receives in his absence. These same programs have given assistance to

patients who, having been discharged from the hospital with medical consent, have been instructed to continue with therapy and vocational rehabilitation in their own communities.

Adequate housing facilities are an important factor when care must be provided in the home. Inadequate housing facilities have long been a serious problem of nursing in the management of tuberculosis patients and improvement in this respect is coming about slowly. In many households it is impossible to isolate an infectious patient and to enforce rest treatment.

The public health nurse of half a century ago taught the tuberculosis patient how to care for himself as well as possible in his tenement room.

Increased Demand for Services

Since 1946, the year in which reports of the clinical use of streptomycin were first published, death rates from tuberculosis have shown a more rapid decrease and the average annual incidence of new cases has shown a slight drop. It is reported, however, that the known prevalence of the disease has declined but little in the last 20 years, probably because of improved case-finding methods and the fact that tuberculosis patients live longer than they used to. The estimated total number of active cases in the United States is 400,000 and only approximately 250,000 of these are known to health departments. Although tuberculosis mortality has greatly decreased, the number of tuberculosis patients requiring therapy has increased and reports from public health nursing agencies and tuberculosis hospitals show an increased demand for nursing service.

As hospitalization is used more widely in connection with antimicrobial therapy in preparation for surgery, and if patients are discharged after a relatively short period to continue treatment at home, the need for skilled nursing service in both the hospital and the home becomes more apparent than ever.

It should be pointed out, too, that a relatively shorter period of treatment in the hospital and a relatively longer period of treatment at home will be necessary if newly diagnosed patients are to receive hospital care when they will derive the most advantage from it. Furthermore, since the period for indoctrination of the patient in the hospital has been lessened, it is desirable that the educational program be intensified; in fact, to quote Dr. Roger S. Mitchell of the Trudeau Sanatorium, "the hospital should now more than ever regard itself as a patient's school of tuberculosis."

Closer Relationships

With the discharge of patients from hospitals to continue treatment at home, there is developing a closer relationship between the hospital and the field personnel involved in the patient's post-hospital care. Nurses are called upon to administer streptomycin to tuberculosis patients in their homes, either under the supervision of a chest clinic or a private physician. Already members of the patient's family are being taught hypodermic administration of the antibiotic because of the shortage of nursing personnel. It is possible that with a shorter duration of illness and a shorter period in the hospital, the problems of the patient and his family should become less. However, with the patient at home problems may become aggravated, especially by difficulties that result from failure of the patient to respond to treatment and the need for continued supervision of other members of the family because of their close association with him.

In the future nursing and health supervision of the tuberculosis patient will be influenced to a great extent by the results of studies in relation to antimicrobial therapy presently in progress. The number of bacteriostatic agents is increasing and they are making therapy more satisfactory as concerns immediate results, but their ability to bring about permanent cure of pulmonary tuberculosis must be determined by prolonged observation. From the foregoing facts it becomes apparent that a decrease in the tuberculosis mortality with its corresponding increase in the number of tuberculosis patients in the community causes increased responsibility for nursing. Moreover, the importance of supervision and treatment of patients and their families at home has been increased by the necessity for carrying out in the home a definite portion of treatment formerly considered to be a function of the sanatorium or tuberculosis hospital.

Recent case-finding activities in the form of chest X-rays is another development that affects nursing in the tuberculosis field. Increased case-finding facilities reveal an appreciable number of patients with pulmonary abnormalities that require careful study to evaluate their disease-producing potentialities. Nursing must play an essential part in the supervision and continuing observation of these tuberculosis suspects.

Rehabilitation in T B

Vocational and Economic Rehabilitation Services for All Tuberculosis Patients Should Be the Goal for the Future

by Norvin C. Kiefer, M.D.

Dr. Kiefer, who is Chief Medical Director of the Equitable Life Assurance Society, is a former Chairman of the American Trudeau Society Committee on Rehabilitation, and former Assistant to the Chief, Tuberculosis Control Division, U.S. Public Health Service. He is also author of *Present Concepts of Rehabilitation in Tuberculosis*, published by the NTA in 1948.

Although the idea of medical rehabilitation dates back at least as far as Hippocrates, modern concepts of rehabilitation did not evolve until the latter part of the nineteenth century. The first few decades of the twentieth century saw a gradual development of the new rehabilitation movement, but greatest impetus to such programs in the United States occurred on a nationwide scale during and since the second World War.

Then and Now

The first experiments involving work by tuberculosis patients apparently started in the 1890's, first in France and then in several other European countries. The tuberculosis industrial colony idea received its greatest impetus in England. The first serious effort of this kind in the United States was the establishment, in 1908, of the Eudowood Farm Colony in Maryland, where graded activity was attempted on farms adjacent to the sanatorium. The next development was the sheltered workshop, such as the Altro Workshops, established in New York City in 1915. Later, a number of in-sanatorium rehabilitation projects evolved.

During the last two decades the National Tuberculosis Association and Federal agencies, such as the Office of Vocational Rehabilitation, the U. S. Public Health Service, and the Veterans Administration have actively supported and expanded tuberculosis rehabilitation programs all over the country.

Rehabilitation in tuberculosis should be "the restoration of the tuberculous to the fullest physical, mental, social, vocational, and economic usefulness of which they are capable." This definition was adopted at a Conference on the Rehabilitation of the Tuberculous held in Washington, D.C., in 1946, and has had wide use since that time.

Office of Vocational Rehabilitation records mirror the trend: In 1936, 499 tuberculosis cases were rehabilitated, 4.8 per cent of the total number rehabilitated through the program of this agency. In 1947, the number was 3,845, or 8.8 per cent. During the fiscal years 1944-51, 31,549 tuberculosis cases were rehabilitated, or 7.9 per cent of the total.

President Eisenhower has set a goal for 1955 of restoring 70,000 disabled persons to productive lives. He also stated: "Our goal for 1956 should be 100,000 rehabilitated persons, or 40,000 persons more than those restored in 1953."

Industrial surveys indicate that handicapped workers compare favorably with their non-handicapped fellows with respect to absenteeism records, job perseverance, and production and safety records. Rehabilitation is practical, economical, and clearly in the interest of the general welfare.

There are many strong and cogent reasons for expanding much further in the next few years the rehabilitation movement now in progress in the United States. Here are four that appear extremely important. All apply to rehabilitation in tuberculosis. Their relative priority depends upon one's point of view.

Economics

The financial savings made possible by a rehabilitation program are especially important in a period when costs of medical care steadily continue to mount and concerted efforts are being made simultaneously to reduce governmental budgets and expenditures. It is significant that the history of rehabilitation programs in this country reveals that they have not been financial liabilities but instead have become assets.

During the fiscal year 1953 State-Federal programs of vocational rehabilitation for disabled civilians returned more than 60,000 handicapped men and women to employment. Preliminary estimates indicate that their return to employment will add over 100,000,000 man hours to the nation's productive effort and their annual rate of earnings will have been increased by about $100,000,000. From public assistance rolls, 11,000-12,000 will return to gainful employment. A comparable number rehabilitated in 1952 for about $6,000,000 had been costing taxpayers about $8,500,000 a year.

National Security

Effective rehabilitation programs are exceedingly important at any time, but they are vital during an era when man has nearly reached what seems to be the ultimate in devising weapons capable of destroying his civilization and himself. During these awesome times, our national strength and security assumes a meaning such as it perhaps never has had before. President Eisenhower has said: "There are no statistics to portray the full depth and meaning in human terms of the rehabilitation program, but clearly it is a program that builds a stronger America."

A Special Task Force on the Handicapped, Office of Defense Mobilization, recently reported that events "have combined to produce a society in which disability will become a major obstacle to national strength and vitality unless a determined and concerted effort is made to cope with it. It is not a matter for the vague future; the problem has shown itself already, and will be with us through any prolonged defense mobilization."

The third justification for better rehabilitation programs is a humanitarian one: The need for assistance to the disabled person and his family. The crush-

ing financial blow in both medical and hospital expenses and in loss of income that tuberculosis causes is well known. The return to honorable independence of people previously on public assistance rolls or in other intolerable financial plight is amply demonstrated in the figures quoted from the Office of Vocational Rehabilitation. Many of these people were tuberculosis ex-patients. These cold statistics cannot reveal the relief of suffering and misery, the restoration to happiness, the revived opportunity to become average, useful, respected citizens, afforded not alone to the patients but to their families.

Some phases of rehabilitation must be made available to every tuberculosis patient and certainly vocational and economic rehabilitation should be offered to all tuberculosis patients, with the possible exception of those who are, in fact, totally and permanently disabled. The practice of furnishing rehabilitation services to a few selected patients cannot solve a nation-wide problem.

These tuberculous children are learning the art of basket-weaving in the sanatorium where they are hospitalized. Training projects such as this were among the early attempts at rehabilitation carried on in tuberculosis hospitals.

Public Health

The value of expanded rehabilitation services for tuberculosis patients to American public health programs can hardly be overstated. In recent years our huge nation-wide case-finding program, combined with great strides in chemotherapy and surgery and with improved economic and social conditions, have brought a precipitous decline in tuberculosis mortality and morbidity rates. This reduction has exceeded the most optimistic time-table for our expanded tuberculosis control program to dispose of this disease as a public health problem in the United States. This nearly incredible decline of tuberculosis, one of our greatest natural enemies, constitutes one of the most dramatic stories of twentieth century American public health history, so dramatic as to give rise to the alarming possibility of future complacency.

This is no time for complacency over any part of our tuberculosis control program. Nature continues to be a formidable antagonist, quick to seize advantage of any weakness or any relaxation which man may expose in his struggle for survival.

There is an ever-present danger which makes the need for rehabilitation of greater significance in tuberculosis than in any other common disease. Tuberculosis rehabilitation is like that for many other diseases with respect to financial savings, national security, and individual humanitarian purposes. Tuberculosis is, however, unique among common disabling diseases—physical or mental—in that for long periods of time its victims may infect others. It is self-perpetuating and potentially can affect far more people than the original victim.

Danger in Neglect

A life may have been saved, temporarily at least, when a tuberculosis patient is discharged from the hospital as an arrested case. But all too frequently, the patient is emotionally unprepared to emerge from the hospital, his previous job is unsuitable for him to return to, and no provision has been made for either training or placement in a job that is acceptable.

Paradoxically, the improved therapeutic methods which are diminishing both the case fatality rates and the duration of hospitalization may increase neglect of adequate in-hospital rehabilitation services. Perhaps more than ever before the tuberculosis hospital physician is too preoccupied with medical and surgical treatment to give adequate consideration to other vitally important needs of his patients. There is grave danger that the patient's recovery from tuberculosis may thus be vitiated by his inability to resume his economic place in society or as the family wage earner. The consequent poor economic status, unhappiness, and anxiety soon become powerful factors favoring recurrence of illness, with all the attendant dangers of infecting family and associates.

The advantages of extensive case finding, accurate diagnosis, prompt isolation, and greatly improved medical and surgical care, can easily be neutralized, certainly in part and frequently in entirety, unless full attention is given to another fundamental requisite of tuberculosis control: restoration of tuberculosis victims "to the fullest physical, mental, social, vocational and economic usefulness of which they are capable."

Medical Research

Secrets of the Tubercule Bacillus Slowly but Surely Yielding to Intensive Laboratory and Clinical Study

by Esmond R. Long, M.D.

Dr. Long is Director of Medical Research for the National Tuberculosis Association and also Director of the Henry Phipps Institute, University of Pennsylvania, Philadelphia. He has directed the research work of the NTA since January 1947.

Fifty years ago the essential nature of tuberculosis was well understood, but the facts at hand did not yet provide a basis for practical procedures in treatment and prevention. The identifying anatomical characteristics of the disease were known and the microbial cause had been discovered. Fundamental research had been carried out on the peculiar hypersensitivity induced by tuberculous infection, the way had been opened for X-ray diagnosis, and artificial pneumothorax for the treatment of pulmonary tuberculosis had been advocated.

The next decade saw the development of tuberculin testing as a quantitative procedure and some progress in utilizing the X-ray as a diagnostic tool. The tuberculin test revealed an extraordinary prevalence of tuberculous infection; the medical profession accepted wide prevalence as inevitable and focused attention on maintenance of resistance rather than prevention of infection.

By 1920 industrial research had greatly improved facilities for X-ray diagnosis, celluloid films had replaced glass plates, and knowledge had accumulated steadily on the significance of abnormal shadows on X-ray films. Artificial pneumothorax was now acclaimed as the greatest achievement to date in specific therapy, and in the succeeding two decades was to be employed on an enormous scale. It was late in these two decades before good clinical research disclosed its defects and limitations. Throughout the period the laboratory became steadily more important in the clinical study of tuberculosis and research.

In the Twenties organization of tuberculosis research developed rapidly. The formation of the Committee on Medical Research of the National Tuberculosis Association in 1921 was a characteristic example and a recognized model. Research was actively under way on the growth and metabolism of the tubercle bacillus, the nature of resistance to the disease, the role of hypersensitivity in pathogenesis, the influence of modifying factors like silicosis, and chemical and biological changes induced by the disease in the animal host.

Tuberculosis research gained impetus in the early Twenties, when the National Tuberculosis Association initiated its medical research program. Studies of the tubercle bacillus were carried forward in laboratories, such as that shown above where a research worker transfers culture media to flasks where TB bacilli will be grown.

Contagiousness Demonstrated

One of the most important developments of the period was clear demonstration of the contagiousness of tuberculosis and the introduction of rational programs of prevention through avoidance of infection. Following long research on artificial vaccination, BCG was introduced in France in the early Twenties as a safe, fairly effective procedure. Clinical research emphasized collapse therapy, and investigations on its techniques multiplied. Specific drug therapy was studied intensively in a few laboratories, but early results were disappointing.

Dissemination of scientific information was promoted by improvement or initiation throughout the world of journals specifically devoted to tuberculosis. *The American Review of Tuberculosis* was one of these. In 1924 a new international organization, the International Union against Tuberculosis, organized its own *Bulletin* in the interest of wider perspective.

The vital significance of technical research was demonstrated in two world wars. After 1945 facilities for all types of scientific research increased enormously in this country and abroad. The

study of tuberculosis shared in the trend. A noteworthy expansion of the medical research program of the NTA, both in funds and diversity of investigation, was a natural development.

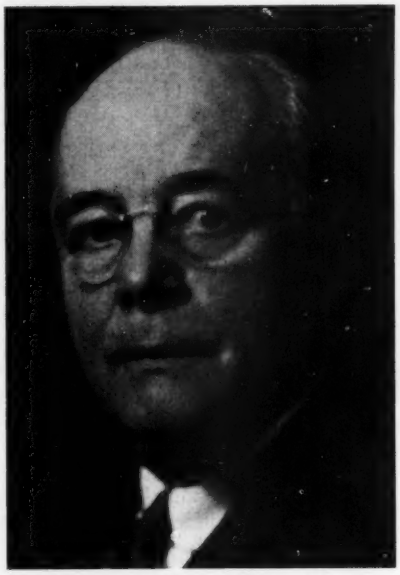
On a world-wide scale research in recent years has been concentrated particularly on antimicrobial therapy. Synthetic drugs, with specific effect on different bacteria, and naturally occurring antibiotics, of which penicillin was the prototype, have been developed in an astonishing series. Within less than a decade of research, tuberculosis therapy has been enriched by streptomycin, para-aminosalicylic acid, and isoniazid. At the same time thoracic surgery has undergone an extraordinary growth, made possible in part by combination with chemotherapy. Accurate research on BCG, fostered on a large scale by the World Health Organization, has confirmed impressions on the value of the vaccine previously based on a long period of empirical observation.

A Vigorous Period

The present is one of the most vigorous periods of tuberculosis research. Studies of the tubercle bacillus continue, with particular reference to factors responsible for virulence and drug susceptibility. In the experimental laboratory emphasis on native resistance to tuberculosis and its physiological and hormonal mechanisms has increased. A great development has occurred in pulmonary physiology and skillful investigators have applied the new knowledge fruitfully in measuring pulmonary function in tuberculosis and thoracic surgery.

Extensive, well controlled research on the potentialities of streptomycin, PAS, and isoniazid is in progress. Optimum regimens for different forms of tuberculosis are being defined. Coordinated medical and surgical investigations, aided by improvements in anesthesia, are revolutionizing the treatment of pulmonary tuberculosis. Better methods of preparing and utilizing the vaccine BCG are being studied. Research in public health methods is proving increasingly fruitful in promoting case finding and administrative procedures for tuberculosis control. In all of this the NTA is playing an important part through its Committee on Medical Research and its other research facilities.

The record of research during the past 50 years is extraordinary. Inevitably, however, as progress in the half century is reviewed, gaps in our knowledge become apparent. Research of the future will be concerned with these. The two fundamental problems of tuberculosis, viz., the underlying causes for the virulence of the tubercle bacillus and the mechanism of human resistance to its invasion, are far from solved, although great progress has been made in each. These problems are complex and neither is likely to be settled in a single step. New physicochemical techniques, supplementing improved bacteriological procedures, are throwing light on the first, and recent advances in understanding human physiology, nutrition, and hormonal balance have opened doors for progress in the second.



Dr. William C. White, Chairman of the first NTA Committee on Medical Research.

Research on therapy is in full stride, but it is unlikely that it will remain unchanged in direction. The memory of self-satisfaction in the pneumothorax period should restrain conceit in the present era of chemotherapy. There is logic in excisional surgery that was lacking in collapse therapy, but a long period of careful inventory is necessary to evaluate its success.

Research on prevention of tuberculosis through other methods than isolation of infecting sources is still to be developed. The most important element in control of tuberculosis other than avoidance of infection is maintenance of resistance to the disease. New methods for what we may call the fortification of resistance should be sought. There is a natural tendency to look for superior methods of artificial immunization. The discovery of more powerful inoculating agents than the usual strains of BCG and the recognition of significant fractions in the bacillus itself have given promising leads.

The Neglected Areas

But it must be said that insufficient advantage has been taken of the leads furnished in the natural history of the disease which, for many years, has declined in severity in a manner out of all proportion to specifically directed measures. The effective elements in the rise in living standards have not been identified, but the nature of some of them is suspected. The value of rest and nutrition has long been recognized empirically. Presumably rest has some relation to physiological balances found in the experimental laboratory to favor resistance. Nutrition is the neglected domain in tuberculosis research. A few investigations point to an element of significant specificity in it. We are in a period of dawning perception of relationship between growth factors, including the named vitamins, and known antimicrobial agents. Here is a lead that may explain the long recognized but ununderstood role of good nutrition. It is worthy of exploitation.

Advances in scientific research are seldom unprecedented. An already well developed field of antibiotic therapy prepared the way for streptomycin, and the value of streptomycin could be recognized only by building on a foundation of facts and procedures laid by long years of fundamental tuberculosis research. In the future there will be meticulous gathering of new facts, keeping tuberculosis research abreast of other scientific investigation, and fruitful capitalization of some of them is certain.

Christmas Seal Sale

Fight Against TB Is Being Carried Forward to Victory Through Generous Contributions Made by the People

by Charles L. Newcomb

Mr. Newcomb was Director of the Christmas Seal Sale Division of the National Tuberculosis Association for 18 years prior to his retirement in December 1947.

Twelve years ago the National Tuberculosis Association published a deluxe booklet with the title *The People Against Tuberculosis*. Many of our readers will remember this publication, while some of the newer staff members of associations may never have heard of it. Leigh Mitchell Hodges of the staff of the old Philadelphia *North American* wrote the book after searching his memory, backed up by plenty of historical research. If you don't already know it, Mr. Hodges was the gentleman who helped Emily Bissell put over the first Christmas Seal Sale in the United States. This was three years after the organization of the NTA.

The Christmas Seal Story

In a preface for *The People Against Tuberculosis* the late Dr. Bruce H. Douglas, Commissioner of the Detroit Health Department and then president of the NTA, wrote as follows:

"The story of the results produced by Christmas Seal money, voluntarily contributed by the people of the United States, has never been more dramatically told than by Mr. Hodges in this epoch-marking volume. The great reduction in the death rate is only part of this story. The effectiveness of the combat with tuberculosis far overshadows the accomplishments marked by the ever-decreasing death rate, since it forecasts the future.

"No one knows better than the tuberculosis association worker, under the leadership of the National and state associations, the need for considerably more work. We labor untiringly to uncover tuberculosis and to have cases reported to the public health authorities. This means that persons who have had contact with the disease must be examined early and often. It means that the search must be extended to other groups, such as young people, industrial workers, members of races having high death rates and, in the larger cities, entire neighborhoods in which the malady is concentrated.

"A tuberculosis death at home usually means a maximum opportunity for the spread of infection to other members of the family from the patient when he is too ill to observe sanitary precautions. That is why the demand continues for a greater number of sanatorium beds.

"Routine tasks are each day assuming added importance as our country gears its military and industrial program to war. If the nation is to be strong it must maintain, yes, it must improve its state of health. Tuberculosis is one of the diseases most costly to military and industrial forces during a time of national stress. Crowded living conditions, mounting prices of necessities, increased mental, emotional and physical strain are inevitable by-products of this heightened activity. What effect will they have on our efforts to bring tuberculosis under control? No one can say, but it is obvious that we must increase our offensive against this hidden enemy.

"No greater contribution has been made to the fight against tuberculosis than that of Miss Emily Bissell, the heroine of this story. Mr. Hodges, the author, made possible the success of Miss Bissell's idea, and he weaves the facts of the struggle against one of man's oldest disease enemies into such a human-interest document that everyone will want to read it."

Where Seal Sale Money Helped

The old-time workers in the fight against tuberculosis know well the story of the Christmas Seal, which has been told over and over through every medium of popular education. The highlights of that story are repeated year after year in the annual campaign of the Christmas Seal Sale, a method of solicitation which permits the prospective contributor the privilege of pri-

Leigh Mitchell Hodges

As the BULLETIN goes to press word has been received of the death on April 4 of Leigh Mitchell Hodges, last surviving member of the founders of the Christmas Seal in the United States in 1907 and author of America's oldest newspaper column, "The Optimist."

One of the country's outstanding columnists, Mr. Hodges' promotion of the first Christmas Seal Sale in this country established the Christmas Seal as the fund-raising technique through which approximately $335,400,000 has been raised in the past 46 years to support the work of the voluntary tuberculosis associations.

Mr. Hodges had been informed a few days before his death that he had been designated to receive the Will Ross Medal of the National Tuberculosis Association at the Association's 50th anniversary meeting in Atlantic City this month. In reply, he had wired Dr. James E. Perkins, managing director of the NTA, "As you know, 'the reward for doing a thing is the having done it,' but that nowise dims the luster of the committee's decision. To you and them and everyone throughout the land with whom I have had the privilege of working in this great cause my tired heart says thank you."

vately making the decision as to whether and to what extent he will support his local association in its effort to conquer one of mankind's most obstinate health problems.

The army of workers, loyally supported by physicians, nurses, social workers, public health authorities, and the public, has over the years honestly and wisely spent the millions of dollars contributed in educating people in the means by which tuberculosis can be wiped out. The discovery of the tubercle bacillus and of the X-ray have contributed to the present modern methods of case finding and treatment, as have the provision of modern tuberculosis hospitals, and the mobile X-ray unit by which the means of examination have been made convenient to those who might hesitate or delay going to a physician. The Christmas Seal has helped to finance and demonstrate most of these activities until public funds could be made available to partly or wholly finance them.

Many people do not know that every means is at hand to complete the objectives of the founders of the tuberculosis movement. We now know the ways in which tuberculosis may be found in the early stages, when cure is practically a certainty. We now know how to treat those patients with a minimum of time spent away from their families and their jobs. Rest—under suitable conditions, treatment under a physician's direction, peace of mind that comes as a result of knowing that the period of inactivity will not be of indefinite duration—all help the patient toward a complete restoration to his part in every-day life.

The story of the Christmas Seal would be incomplete without a word about the artists who have given so much of their talent in designing the posters and Seals over the years. Such men as Howard Pyle, Thomas Cleland, Ernest Hamlin Baker, George V. Curtis, Lloyd Coe, Steven Dohanos, Dale Nichols, Andre Dugo, and many others have become interested in the work of the tuberculosis associations as a result of the selection of designs submitted by them.

Tribute should also be paid to the talented writers, actors and actresses, and motion picture, radio, and television personalities for the important part each has played in making the fight better known to the public. The public, in turn, has supported the fight with millions of dollars, largely spent in the locality where contributed.

Miss Emily P. Bissell, who started the Christmas Seal Sale in the United States in Wilmington, Del., in 1907, is seen here with Leigh Mitchell Hodges, veteran newspaper columnist, whose promotion of the first Sale assured its success and established it as the fund-raising technique of the tuberculosis associations in this country. Taken in 1936, the picture shows Miss Bissell and Mr. Hodges with that year's Christmas Seals.

Generously Supported

It is probably true that the fight to conquer tuberculosis might have been made without the Christmas Seal Sale, but progress has been much faster with the substantial funds from that source. Certainly, as a result of the great educational effort that continues throughout the year—sparked by the campaign in November and December, the public has shown an awareness of the fact that the disease can be prevented.

In bringing this short story to a logical end, attention should be given to the 1952-1953 and 1953-1954 Annual Reports of the NTA. In them will be found complete word pictures of the problem of tuberculosis control today—"must" reading for the tuberculosis worker . . . . intensely interesting reading for others.

On the occasion of this 50th Anniversary of the NTA it becomes a matter of pride to point out the accomplishments resulting from the combined efforts of the many agencies which have contributed to the greatest educational campaign ever staged for the control of a single disease, a disease which even now will claim approximately 25,000 lives this year in the United States.

International Relations

Voluntary Association Support Needed in Greater Measure To Promote Strong World Front Against TB

by Frederick D. Hopkins

Mr. Hopkins served the National Tuberculosis Association as Executive Secretary for 31 years prior to his retirement in 1951. He is now Consultant on International Affairs and Archives.

The participation of the National Tuberculosis Association in the voluntary international tuberculosis movement began in Atlantic City on June 6, 1904, the day the Association was organized. An international committee was appointed at the first Board meeting that evening consisting of Dr. William Osler, chairman; Dr. S. Adolphus Knopf, Dr. Lawrence F. Flick, Dr. Hermann M. Biggs, and Dr. Vincent Y. Bowditch.

Urged Congress in U.S.A.

All these founders and other Board members were in close touch with developments in Europe. Dr. Flick had visited Dr. Gotthold Pannwitz, secretary general of the Central International Bureau for the Prevention of Tuberculosis, in Berlin in 1902 and urged that the Sixth International Tuberculosis Congress be held in the United States. Knopf's essay, Tuberculosis as a Disease of the Masses and How to Combat It," had won a prize at the First Congress in Berlin in 1899 and was being printed in many languages around the world. The Second Congress had met in Naples in 1900, the Third in London in 1901, the Fourth in Berlin in 1902, and the Fifth, originally scheduled for 1903, was to meet in Paris in 1905. No time was to be lost if our committee were to obtain the Sixth Congress for the United States in 1908.

Led by Dr. Osler, a distinguished group attended the Paris conference and was successful in its efforts, the official invitation coming from President Theodore Roosevelt, who later consented to be president of the meeting. Much could be said about the organization and content of this inspiring gathering which brought Bang, Leon Bernard, Bezançon, Calmette, Denys, Harbitz, Koch, Landouzy, Sir Arthur Newsholme, Sir Robert Philip, Pannwitz, Rist, von Schrötter, and other notables to Washington. The eight volumes of *Transactions* show the importance of the papers read, the supplementary lectures given, and the large exhibits shown. It was a focus for the efforts of the struggling National Association for the Study and Prevention of Tuberculosis, led since 1905 by Dr. Livingston Farrand, a great administrator, as executive officer. Philip P. Jacobs, Ph.D., joined the staff early in 1908 and assisted at the Congress.

The results of the Congress gave direction to the National program. Delegates, many appointed by governors and mayors, came from all parts of the United States and went home to organize associations, taking with them the latest information received from those engaged in active programs around the world, especially the need for beds as advised by Newsholme and others.

The Berlin office organized closed conferences for the membership of the Bureau, renamed the International Anti-Tuberculosis Association in 1905, as well as large Congresses for the public, and a conference met in Philadelphia Sept. 24-26, 1908, prior to the Washington Congress, held Sept. 28-Oct. 5. This gave the United States members a further opportunity to meet and know their colleagues from abroad. The next Congress was invited to Rome and was held in 1912. World War I prevented further Congresses and the 1914 Conference scheduled for Bern was not held.

International Union Organized

With Europe divided by the war, the influence of the Berlin office was greatly curtailed and after a few years it ceased to function. France, Great Britain, Belgium, Italy, the United States, and other countries decided not to continue membership. Leon Bourgeois, former premier of France, was at that time chairman of the International and in behalf of France, Great Britain, Italy, and the United States, sent out a call for an organization meeting to assemble in Paris in the fall of 1920. Thus the present International Union Against Tuberculosis, of which the NTA is now one of 55 members, came into being. The new Union came to Washington in 1926 under the presidency of Dr. Theobald Smith and again brought distinguished visitors and much inspiration to our program.

Prior to World War II the Union's office in Paris had a small secretariat which arranged biennial conferences—Oslo, The Hague, Warsaw, and Lisbon in the Thirties—with annual meetings of the Council in Paris in intervening years. A *Quarterly Bulletin* was published.

The occupation of Paris ended all this and again voluntary work in the international field faced reorganization. While France itself and several other countries were determined that a rejuvenated organization must be better equipped to meet the world's need, especially in the countries with tremendous problems and little accomplishment, it can be said with pride that the NTA provided some of the leadership.

Post-War Reorganization

The World Health Organization of the United Nations was organized in the summer of 1946 and that fall the Executive Committee of the Union met in Paris for the first time since the war. Dr. Kendall Emerson, then managing director of the NTA, introduced a resolution, heartily approved by Prof. Jacques Parisot, present as an observer for WHO, urging the new official organization to embark upon a vigorous world-wide tuberculosis campaign.

At the 1947 Council meeting Dr. Emerson successfully urged a revision of the constitution to permit an enlarged program. In 1948 Dr. James E.

Perkins, newly appointed as managing director of the NTA, proposed a resolution, unanimously adopted, calling for an expanded program and the employment of a full-time executive director and an enlarged secretariat. Dr. Etienne Bernard, distinguished professor at the University of Paris, was elected secretary general and now holds that position. Dr. William Gellner was appointed executive director in 1952.

An achievement in 1950 was the establishment of a conference of executive directors of national associations. Beginning with an organization meeting in Copenhagen at the suggestion of the United States delegation, the conference has met annually and has proved to be an important forum for discussing the program of the Union and an exchange of information regarding policies, activities, and problems of the national agencies.

The Union had always had meager financial resources and it seemed to our Board of Directors that an offer of financial assistance, with a proviso that funds be matched by appropriations from other national associations, would lead to more rapid development of program. An annual contribution of $10,000 was begun by the NTA in 1952, matching funds having been obtained.

Impressive ceremonies, attended by Queen Wilhelmina of the Netherlands, marked the opening of the 1932 conference of the International Union Against Tuberculosis in the great "Hall of Knights" at The Hague.

Heartening Progress

A delegation of six, led by NTA President Mark Harrington, attended the September 1953 meeting of the Council in Paris. Others were Dr. David T. Smith, representing the American Trudeau Society; John H. Biddle, representing the Board of Directors; Robert W. Osborn, representing the National Conference of Tuberculosis Workers; Dr. Esmond R. Long, who presided over the one-day scientific session, and Dr. James E. Perkins, who is a member of the Executive Committee and chairman of the Committee on Budget and Finance. Dr. Smith is a member of the Program Committee and Dr. Long is chairman of the Committee on Antibiotics and Chemotherapy. The delegation has reported that it is greatly heartened by recent developments, including declaration during the Paris meetings that more opportunity must be given for participation of lay workers in the international movement. They were unanimous in agreeing that there is a definite place for the non-governmental tuberculosis association in the international field and that the national oganizations can be of assistance to the governmental agencies represented in WHO. Our delegation looks forward to further discussions on program, budget, and enlargement of the secretariat, in addition to the scientific program at the XIII Conference of the Union to be held in Madrid next September.

Enlarged Responsibilities Foreseen

What of the future? In the face of enlarged opportunities, the Union should increase its $30,000 budget to $50,000 or more if a staff of technical associates is provided to organize additional national associations and give assistance to existing associations upon request. The office must be staffed to give advice on all phases of voluntary effort, including health education, laws for the control of tuberculosis, development of public opinion in support of official agencies, demonstration of activities for later transfer to public agencies, and the establishment of standards and methods of fund raising. The work of committees, begun during the past year, must be enlarged and adequately financed, thus bringing to the support of the Union the leading experts from all lands.

The NTA, with the approval of the Board, has rendered assistance to various countries at their urgent request, but it has done so with hesitation, realizing that this was a function of the International Union.

In view of the debt we owe to other parts of the world for the knowledge that enabled us to develop an effective program long in advance of the time when we began to make our own original scientific contributions, and more especially because of our success in approaching the control of tuberculosis, can we not justify increasing amounts of our Seal Sale funds for the use of the International Union in a vigorous campaign for the eradication of tuberculosis? The Paris office must be able to give field service to national associations just as the NTA has worked with state associations in improving organization, program activities, and ways of obtaining financial support. Let us give this serious thought in 1954, the 50th anniversary of the founding of the NTA and also of the origin of the Christmas Seal, the great gift that we received from Denmark.

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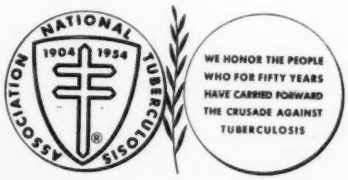
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